THE OLD CLOCK BOOK

N. HUDSON MOORE

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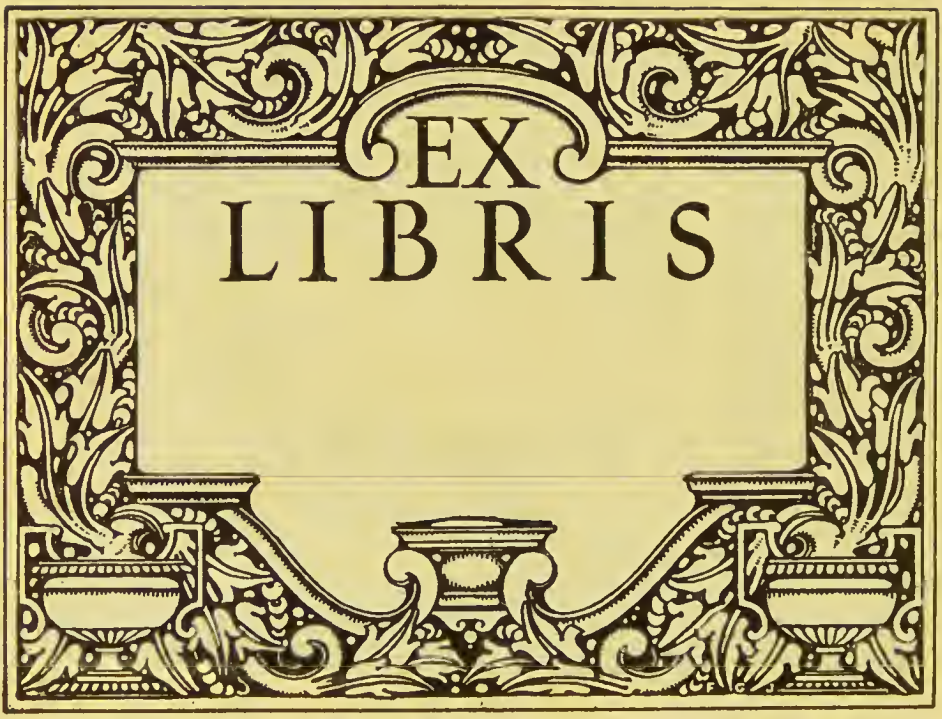

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THE OLD CLOCK BOOK

Eli Terry's First Clock. Built 1792
Owned by his descendants and in going order

Frontispiece

THE
OLD CLOCK BOOK

BY

N. HUDSON MOORE

AUTHOR OF

"THE OLD CHINA BOOK," "THE OLD FURNITURE BOOK," "OLD PEWTER, BRASS, COPPER AND SHEFFIELD PLATE," "THE OLD LACE BOOK," ETC.

WITH ONE HUNDRED AND FOUR ILLUSTRATIONS

"Time was, time is; time is past"

LONDON
WILLIAM HEINEMANN
1912

Esq., of The Steam Turbine Works, Hartford, Conn.; to Marshall G. Hill, Esq., Afton, N. Y.; to Francis H. Bigelow, Esq., of Cambridge, Mass.; to Francis G. Atwater, Esq., of Meriden, Conn.; and to Maynard A. Dominick, Esq., through whose efforts permission was granted to copy the records of the London Clockmakers' Company, to each and all I record my grateful thanks.

Rochester, N. Y.,
July, 1911.

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ENGLISH CLOCKS

If it be but rightly considered,
The clock is a machine most comely and of good repute;
Pleasant also, and profitable.
For day and night it sheweth us the hours,
Its subtilty being in no wise diminished
In the absence even of the sun,
On which account it should be held in more esteem
Than those lesser instruments which do not so,
However cunningly they be made.
Therefore I hold him to be a wise and valiant man
That did first find the use
Of a device so gracious and serviceable.

FROISSART (1337-1410).

EARLY TIMEKEEPERS

INSTRUMENTS for marking time have grown from the simple sun-dial of Ahaz, mentioned in the second book of Kings, to complicated recorders made of costly metals. Simple as the sun-dial is, till well into the nineteenth century, it, or a variation of it, was used to tell time in many country neighbourhoods, where the "noon-mark" on the window-sill told the dinner-hour.

Though romantic, the sun-dial is a fair-weather recorder only, and such mottoes as "Not without light," "The shadow teaches," "I wait for no one," "Every hour shortens life," and "Come light, visit me," are the kind which were popularly chosen for it.

In Egypt, Greece, Italy, Arabia, and China traces of ancient sun-dials are abundant. In Mohammedan countries, the sun-dial and sand-glass are still favoured. The faithful pray five times in twenty-four hours.

Dials cut on the walls of churches still are to be found in England, dating from Anglo-Saxon times, and, on many parts of the continent, quaint dials on

churches mark the sunny hours, while more modern clocks in the steeple tell the time on shadowed days and through the night.

In the seventeenth century, portable dials came into use. The horizontal pattern, in which the gnomon was hinged to lie flat when not in use, was one style, and with it was a compass to set the gnomon true north and south. Such a one is shown in Figure 1. This dial has unusual interest, since it belonged to Roger Williams, the zealous founder of Rhode Island, who came to America in 1631, and presumably brought the dial with him. When not in use, the dial and compass fit together. Another form of dial is shown in Figure 2. It is of the eighteenth century, French, and was made by Jacques Lucas.

One of the ordinary forms of ring dials is shown in Figure 3; and in Figure 4 what is called a pillar or shepherd's dial, a simple form still in use among the European peasantry. The gnomon is pushed in when the dial is not in use. The last three specimens are at the Metropolitan Museum of Art, New York City.

The earliest mechanical contrivance for keeping time was the water-clock, first used among the Eastern nations, and introduced into Greece by Plato. One of these water-clocks, now in the National Museum at Washington, D. C., is shown in Figure 5. This form was used in the seventeenth century and consists of a wooden frame with the hours marked on the sides. Two cords are attached to the top of the frame, the other ends being wound around the metal axis which passes through the drum.

Fig. 1. Roger Williams' Dial
Supposed to have been brought to America by the founder of Rhode Island in 1631

Fig. 2. Portable Dial
Used to carry about instead of a watch
Metropolitan Museum of Art, N. Y.

Fig. 4. Shepherd's or Pillar Dial
Still in use in some parts of Europe
Metropolitan Museum of Art, N. Y.

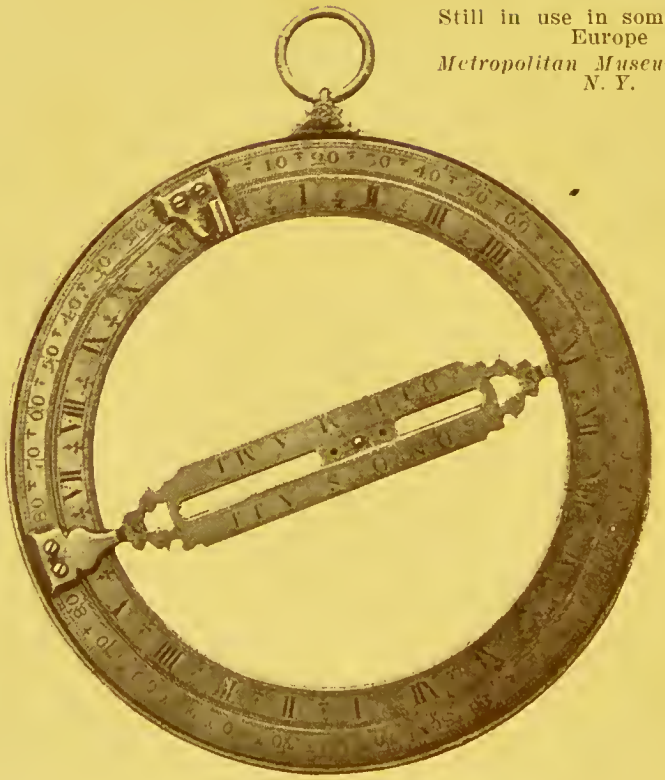


Fig. 3. Ring Dial
Another form of portable dial
Metropolitan Museum of Art, N. Y.

This drum contains the water, and is divided inside into a number of partitions, each with a small hole driven in it, through which the water drips. When the drum is wound to the top of the frame, the force of gravity acting against the resistance of the cord causes it to revolve with great rapidity. To counteract this, the water is introduced, which, falling from one partition to another, causes the drum to slowly revolve, the axis pointing out the hours on the sides of the frame. The two nails, shown in the photograph holding the axis in place, do not belong there when the clepsydra is in working order.

Scipio Nasica is said to have brought one to Rome 157 B.C., while among the gifts sent to Charlemagne by the king of Persia 807 A.D. was a water-clock which struck the hours.

Candles made exactly twelve inches long, burning one inch every twenty minutes, was another simple way of marking time, and dry sand, running from one bulb of glass to another through a narrow connecting neck, was another. The amount of sand was sufficient to consume one hour in running from one bulb to another, so they were called hour-glasses. Occasionally you may find them used now in out-of-the-way places, and it is a fact that they are still used in Parliament for noting definite periods.

Just who was the first person to make a wheel-clock, and when, history does not tell. Bœthius has that honour ascribed to him, and the date given is 510 A.D. Stow says that clocks were ordered set up in churches in 612. Clocks driven by a weight are generally

ascribed to Pacificus, Archdeacon of Verona in the ninth century; William, Abbot of Hirshaw, is also given as a possible inventor in the eleventh century; and there are even others whose claims are more or less valid.

But among the first clocks composed of an assemblage of wheels, of which there is no doubt as to age, is the clock in St. Paul's Cathedral, London, which was put up in 1286; one at Canterbury Cathedral, 1292; one at Exeter, 1300; and one in the palace yard, London, of about the same period. All these were in England, but Froissart speaks of one at Courtrai, France, which was taken to Dijon by Philip, Duke of Burgundy, in 1370.

Viollet-le-Duc remarks that from the twelfth to the fourteenth century no space was arranged in church towers for dial plates. Still there were clocks in many towers, but they were without dials, and only struck the hours, the act of striking often being performed by a wooden figure, several feet tall, which beat upon a metal bell.

During the fourteenth century, clocks with various mechanical devices became popular; puppets were arranged to perform little scenes at the hours, like "The Mystery of the Resurrection," "Death," etc. Nor was skill in clockmaking confined to England and France. Saladin, of Egypt, in 1232 presented to Frederick II. of Germany a clock run by weights and wheels, showing figures which represented the sun, moon, and other planets and the twelve signs of the zodiac. In 1368, in the palace of Abu Hammou, Sultan of Thencen, was

a clock ornamented with figures carved from solid silver.

The first of the celebrated Strasburg clocks, which were placed in the cathedral there, was begun in 1350, and from that time on there has been no interruption in the series of wonderful mechanical clocks which have been made in all countries.

The word "clock" sounds much alike in many languages. The German calls it *glocke;* the French, *cloche;* Saxon, *clugga;* Irish, *clog;* Scott, *knock;* Chinese, *glog;* Dutch, *kloke;* Welsh, *cloc.* But before the word "clock" came into general use, all timekeepers were called by the general name of horologes, and this even at as late a period as the time of James I. Until well within the fourteenth century, the word "clock" meant the bell which struck the hour, the actual passage of time being determined by the sun-dial or hour-glass.

In the charming, old, mediæval city of Rouen in France, time seems to move more slowly than in many other places. As long as one does not live there, it is sad to see the narrow streets, without sidewalks, traversed by a gutter in the centre, being replaced by the ordinary walks, which, while comfortable, are far less picturesque, and necessitate the pulling down of many curious old buildings, past which, no doubt, the lovely Agnes Sorel and poor Joan of Arc once passed. In this same city, in the cathedral, is buried the heart of Richard Cœur de Lion, and some of his companions lie near him.

One of the most famous streets is called Rue de la

Grosse Horloge, and it is still most picturesque. The clock which gave it its name is shown in Figure 6, and is placed in a round-arched gateway surmounted by a tower, which, it is said, was finished in 1527, and was not the first structure which held the clock. The clock was made by Jehan de Fealins in 1389. It has been carefully looked after, and, with some slight modern modifications, is still an excellent timekeeper. It shows the hours, the days of the week, and the phases of the moon. The handsome dial is about six feet square, and surrounded by a circle of fine ornament. It is still the chief clock in the city, nothing modern having been allowed to usurp its place.

Indeed Rouen has ever been famous for her clock and watch makers; Noel and the two Etienne Huberts being the best known ones of the seventeenth century; "Roumieu à Rouen," as he signed his work, being less widely known. The history of Paul Roumieu is more closely connected with Edinburgh than with Rouen, since his name appears on the books of the Edinburgh Hammermen, as freeman watch and clock maker, June, 1677. His essay was a watch which he made in his own room, and when admitted he paid £100 Scots as his entrance fee.

Up to the time of his arrival, there was not a single watchmaker in Edinburgh, the members of the craft being clockmakers only. That he was a master of his craft was evident from his admission to the guild, but he seems to have paid small attention to the company affairs, as he was fined £26 Scots for being absent from meetings fifty times! He died in 1694.

Fig. 5. Water Clock
Early form of time keeper
National Museum, Washington, D. C

Fig. 6. Clock at Rouen
Made in 1389, and still in going order

His son, with the same name, was apprenticed to his father and admitted freeman to the Edinburgh Hammermen in 1692. He came into his father's business at the latter's death in 1694, and he enlarged and extended it, taking on many apprentices. Paul Roumieu, Jr., died in 1710, and his daughter, left unprovided for, was admitted in 1712 to the Maiden Hospital, by the efforts of the company. This is the last appearance of the name in Scottish records.

Clock Collectors

Notwithstanding their bulkiness there are more collectors of clocks than one would at first imagine. It is probable, however, that the late King Edward had the greatest number in any one collection, either public or private, since at Windsor alone there are over two hundred and fifty. They are all carefully inventoried in many great volumes, which are in the care of the Lord Chamberlain's department, and this department is also responsible for the care of the collection.

The collecting of clocks seems to be a royal hobby, since Louis XIV., Louis XVI., Queen Victoria, and King Edward all have had it. Indeed King Edward's most valuable clocks came to him by inheritance from his mother, and, perhaps, of them all the one which has the greatest "human interest" attached to it is the one which belonged to the unfortunate Anne Boleyn. This clock, which was given to her on her wedding-day by Henry VIII., is a small affair—four inches deep

and ten inches high. There is a metal gilt case, and the clock now stands on a gilt bracket, through which hang the weights. The dome of the clock is topped by a lion rampant, holding a shield on which are engraved the arms of France quartered with the arms of England. The weights are of lead and partially enclosed in copper gilt. They are beautifully engraved and decorated, H. A. and true lovers' knots on one, and H. A. on the other. Around the top of each weight is the motto "Dieu et mon droit," and round the lower ends runs the inscription, "Ye most happye." The bracket which supports the clock is of later date, and is made of carved and gilded wood with thirteen portraits in relief on its surface. The clock case was probably designed by Holbein, who frequently designed plate and jewels for Henry VIII. The movement now in the clock is later than the one originally made for it. It has a short pendulum, brass wheels, and a crown wheel escapement. The clock is shown in Figure 7. It has passed through several hands since the beheading of poor Anne, the last to own it before Queen Victoria being that prince of collectors, Horace Walpole. It was bidden in at the sale of his effects for the queen, for about six hundred dollars.

The greatest curiosity in the king's collection is at Buckingham Palace, and is a clock made by Lepine, 1720-1805, a protégé of Voltaire. It represents a negress's head, and the hours are shown on one eye, the minutes in the other. The head is two and a half feet high, of ormolu and richly ornamented.

The fame of Lepine's clocks spread to America, for

Fig. 7. Anne Boleyn's Clock
Among the clocks at Windsor Castle

Fig. 8. Clock by Lepine
Belonged to George Washington, now at the National Museum, Washington, D. C.

Fig. 9. Clock by Lepaute
Belonged to Queen Victoria

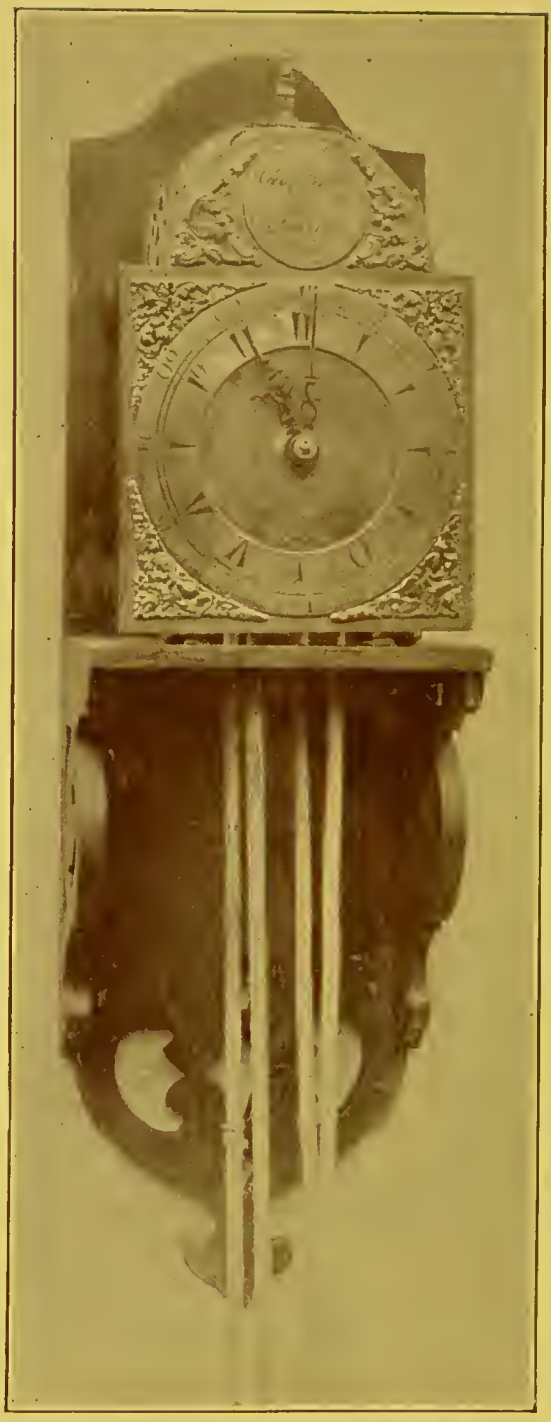


Fig. 10. Lantern Clock by Clarke
Made between 1632 and 1690

General Washington owned one. It is a curious-looking timepiece and is shown in Figure 8. It was wound in the back, for there are no keyholes on the face, and the keys may be seen lying on the stand. It was covered with a glass case, is made of brass, and has a handsome brass engraved wreath about the dial. It is now in the National Museum at Washington. It must have been a good timekeeper, for one of General Washington's characteristics was promptness. He gave away more than one watch to his friends as keepsakes.

There are several clocks in the late King Edward's collection by Lepaute, a celebrated French clockmaker, born in 1709, died 1787. He improved the pin-wheel escapement by putting pins on both sides of the wheel, and he was noted also for his turret clocks, of which he erected five for the Louvre alone. They were wound by means of an air-current and a fan, a method which has been recently revived. Many of his clocks were placed in superb cases, ormolu and richly decorated, and one of these is shown in Figure 9. It is six feet eight inches high, the case of ebony with gilt mounts, and the clock goes for twelve months with one winding. It has a gridiron pendulum that beats the seconds.

Domestic Clocks

The clocks in which we are chiefly interested are those for household use, and the earliest which we had came from England. By 1600 there were clocks made for a moderate price, and for the use of the

average householder. These clocks were known by the names "bird-cage," "lantern," or "bed-post" clocks. An excellent example is given in Figure 10 of a brass lantern clock in its original state, made by George Clarke, London, 1632, and later. It still keeps perfect time. A simpler form is shown in Figure 11. Many such clocks as these found their way over here, made by English or Dutch makers. The works are brass, with a painted or engraved dial. They were put on shelves or brackets attached to the wall, and were wound by pulling down the opposite ends of ropes on which the weights were hung. Some of these were striking clocks, others were furnished with an alarm, and none of them was expected to run for more than thirty hours.

Samuel Pepys mentions in his diary such a clock, belonging to Catherine of Braganza in 1664. He says:

"Mr. Pierce showed me the Queen's [the Portuguese Princess, wife of Charles II.] bedchamber . . . and her holy water at her head as she sleeps, with a clock at her bedside, wherein a lamp burns that tells her the time of night at any time."

In fact, small, portable clocks were mentioned nearly two hundred years earlier than Pepys's note, and from the "Paston Letters," which are such valuable repositories, I take the following extract. The letter is from Sir John Paston, and is dated 1469:

"I praye you speke wt Harcourt off the Abbeye ffor a lytell clokke whyche I sent him by James Gressham to amend and yt ye woll get it off him an it be redy, and send it me, and as ffor mony ffor his labour, he

hath another clok of myn whiche St. Thoms Lyndes, God have hys soule, gave me. He maye kepe that tyll I paye him. This clok is my Lordys Archebysshopis but late hym not wote of it."

The form was doubtless similar to the bird-cage clocks, though it is known that some of the early clocks had revolving dials.

In a book called "Interesting Papers Relating to the History of France from the Time of Louis XI. to that of Louis XVIII." is the following: "April 4, 1480, To John of Paris, clock maker, the sum of £16. 0. 10, ordered for him by the said lord in the month of March, for a clock which has a dial-plate, and which sounds the hours, garnished with all that appertains to it, and which the said lord caused to be taken and brought, that he might carry it with him to every place whither he might go."

In the South Kensington Museum there is on an inlaid wooden panel the representation of a clock with a revolving ring, on which the twenty-four hours are marked, the current hour being indicated by a pointer. The date of the panel is certainly not later than 1500, and of course the date of the clock is older.

The Clockmakers' Company—Pendulums—Frets

In 1544 the Master Clockmakers of Paris were incorporated by statute, and in 1627 a proposal to grant letters patent to allow French clockmakers to carry on their trade in London caused such an agitation in that city that a committee of clockmakers was formed, and

a petition for a charter was presented to Charles I., which he granted August 22, 1631, as "The Master, Wardens, and Fellowship of the Art of Clockmakers of the City of London." Like the other guilds or companies, the clockmakers were empowered by their charter to regulate the trade in London, or within ten miles of the city, and to a certain extent throughout the kingdom.

Like other companies they had the "right of search," which now seems very arbitrary. In order to "prevent the public from being injured by persons making, buying, selling, transporting, and importing any bad, deceitful, or insufficient clocks, watches, larums, sundials, boxes, or cases for the said trade," powers were given "to enter with a constable or other officer any ships, vessels, warehouses, shops, or other places where they shall suspect such bad and deceitful works to be made or kept, for the purposes of searching for them." They might enter by force if their progress was denied. This right of search was in force till about 1700.

In 1698 there was an act passed for protecting both the trade and the public. One of the clauses reads, that "great quantities of boxes, cases and dial-plates for clocks and watches have been exported without their movements, and in foreign parts made up with bad movements, and thereon some London watchmakers' names engraved, and so are sold abroad for English work; and also there hath been the like ill practice in England by divers persons, as well as by some professing the art of clock and watchmaking, as others

ignorant therein, in putting counterfeit names, as also the names of the best known London watchmakers on their bad clocks and watches, to the great prejudice of the buyers, and the disreputation of the said art at home and abroad." To prevent this "disreputation" it was ordered that in future no case or dial-plate should be exported without the movement, nor without the maker's name and place of abode being engraved on every such watch or clock, under a penalty of forfeiture and a fine of £20.

The pendulum, which was introduced about 1657, superseded the balance. The invention, which has many claimants, is probably due to Christian Huygens, a distinguished Dutch mathematician, who in 1657 arranged a clock with a long pendulum.

The introduction of the pendulum into England is generally ascribed to Ahasuerus Fromanteel, a Dutch clockmaker, who arrived in England and made clocks with pendulums about 1662. The length of the pendulum determines the rate of vibrations; a short one moves quickly, a long one moves slowly. The early pendulums applied to English clocks were very ineffective. They were attached to the verge, the bob was extremely light and they were very short. They were commonly called "bob pendulums." The "royal" or seconds pendulums, which were in general use by 1680, had very light bobs, for the idea prevailed that heavy bobs threw too great a strain upon the clock. After a time heavier bobs were used, even though the pendulum was hooked in hanging shackle in ordinary long-case clocks, when a thin spring was introduced,

which became universally adopted as the means of hanging pendulums of every kind.

Although the introduction of the pendulum was such a marked advance on the old-time balance controlled by a spring, it was discovered, as the necessity and demand for more accurate timekeepers increased, that the effect of temperature on the rod of the pendulum had a marked influence in preventing the keeping of perfect time.

Any material of which a pendulum can be made expands with heat, which lengthens the rod, thus causing the pendulum to go slower in summer than in winter. Although the amount which the rod lengthens is infinitely small, it causes, with a common wire pendulum, a variation of a minute a week; with a brass rod a loss of a minute in five days; and with a wooden rod, which varies the least of the three materials, one minute in three weeks.

The common way of regulating pendulums is by means of a nut and screw on the lower part of the rod, on which the bob is placed. When it is raised or lowered, the pendulum will go slower or faster.

Several scientific timekeepers took steps to overcome this difficulty. Harrison perfected what he called the "gridiron" pendulum, which consists of a central steel rod with a cross at the base carrying two upright brass rods. At the top of these was another cross-piece from which hung two steel wires carrying a cross at the bottom, on which were placed two more brass rods from which hung steel wires which carried the bob.

After zinc was introduced, brass pendulums were no longer made, the zinc expanding sufficiently and being of sufficient stiffness to have one tube do the work. The bobs in large clocks are generally of iron, in small ones of lead. Some famous English clockmakers used mahogany or teakwood rods for the pendulum, but these had to be carefully oiled, dried, varnished or gilded, and even then might be influenced by dampness. Mercurial pendulums, which have been and are used in astronomical clocks, carry instead of a bob a glass or iron jar filled with mercury.

John Ellicott, a clockmaker born in London in 1700, was another experimenter in regard to pendulums. He wrote one or more pamphlets on the subject, and invented a compensation pendulum in which the bob rests on the longer ends of two levers of which the shorter ends are depressed by the superior expansion of a brass bar attached to the pendulum rod. The device, however, did not prove practical.

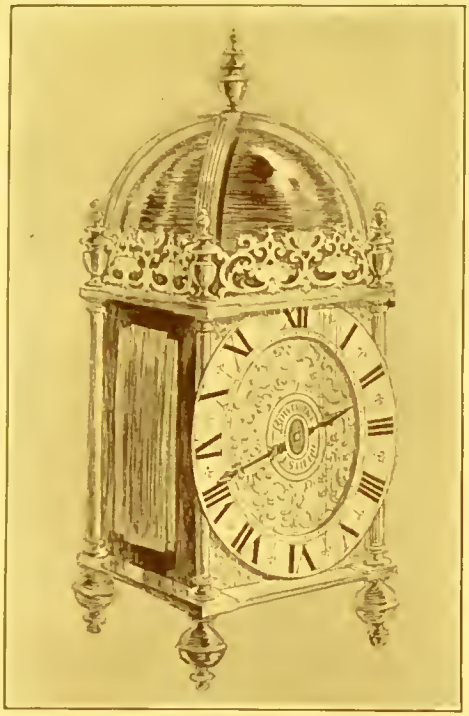
That clocks by these ancient makers are rare anywhere is quite true; that one would hardly expect to find one in America is evident, yet the *New York Independent* for December 15, 1859, has this statement with regard to a clock by Christian Huygens: "*The Hartford Times* says that a watchmaker in that city has repaired and set in running order a German clock more than two centuries old. It was built by Huygens, somewhere about the year 1640(?), and, though it has not run for more than half-a-century, is now keeping good time and may last another two centuries. It was found by the artist Church in the possession

of a Dutch family in Nova Scotia while he was off on his iceberg sketching expedition. In that family it had been handed down from father to son for generations. This is one of the very first clocks ever made with a pendulum. The action of the pendulum on the wheel is not direct by means of a pallet, as in the modern clocks, but operates by a vertical bar with 'snugs' on it, catching into the teeth at each oscillation of the pendulum. The clock strikes for the half-hour and hour, and is wound by means of an endless chain. It has an open frame of black, ancient oak, exposing the works, which are of brass, and nicely finished."

The first clocks of the lantern or bird-cage variety were small, ranging in size from three and one-half inches to five inches square. The one belonging to Anne Boleyn, ten inches high by four deep, and the one shown in Figure 11, sixteen inches high by eight and one-half deep, were of unusual size. The rounded top seen in Figure 11 is the bell upon which the hours are struck.

One peculiarity of these clocks is that the dial face often projects an inch or two beyond the sides of the frame, in which case they are called "sheep's-head" clocks (see Figure 11). They are not uncommon in England even yet, for they were made continuously till about 1825, and as the works are of brass and well made, they are excellent timekeepers.

The little ornaments which stand up in front of the clock are known as "frets," and they are a more or less accurate indication of when the clock was made. The design of crossed dolphins came into use about



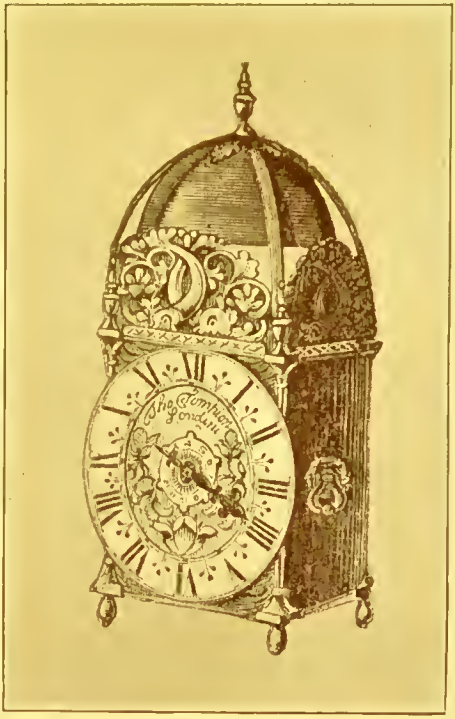


Fig. 11. Bird Cage or Lantern Clock
Another form of early clock

Fig. 12. Lantern Clock with Dolphin Fret
This pattern of fret was used first about 1650

Fig. 13. Bracket Clock
Handle on top and pierced sides

Fig. 14. Chiming Clock by Antram
Made about 1700, in ebonized case with metal mounts
Owned in England

Fig. 15. Balloon Clock by Lozano
A variation of the bracket clock, made between 1700-15
Metropolitan Museum of Art, N. Y.

Fig. 16. Bracket Clock by Evill Brothers of Bath, Eng.
Said to have belonged to the Penn family
Historical Society of Pennsylvania

1650, and was a favourite pattern. There were other frets, generally of geometric design, which also became well known. A dolphin fret is shown in Figure 12.

Bracket Clocks

Another style of clock in use about this period was called the "bracket" clock. Such clocks had the handles on the top, as in Figure 13, or on the sides. Clocks like these were luxuries, and there are records which show that Henry Jones, a popular clockmaker, with a shop in Inner Temple Gate, charged £150 for a similar clock which he furnished to Charles II. in 1673. A fine chiming bracket clock by Joshua Antram, London, 1700, is shown in Figure 14. It is in an ebonized case with an arched metal dial and ormolu. It has a chime of eight bells. The handles are on the sides.

Another form of bracket clock, known as the "balloon," is shown in Figure 15. This is a very splendid clock by Thomas Lozano of London, 1700-1715. It has very fine water gilt ormolu mounts, and can be arranged either to strike or be silent or to chime. You can arrange what character of tune you wish the chimes to play by adjusting the hand to the various styles of music, the names of which are given on the edge: Gavot, Minuet, March, Air, Hymn, Air, Dance, Hornpipe, and "He Comes," whatever that may be; probably a popular ditty of the period. This clock is the property of the Metropolitan Museum of New York.

Figure 16 is another bracket clock made by James and William Evill, Bath. The Evills made clocks for many years in Bath, and this is a particularly choice specimen with handsomely silvered dial. It is in the Pennsylvania Historical Society, Philadelphia, and is said to have belonged to William Penn. It is more likely that it belonged to some other member of this family, for the chime and silent dial was not in general use till after the time of William Penn's death. This was made probably about 1720-30. This style of clock continued in use for one hundred years or more, and on them the frets, which were now placed in the corners, became, as in the lantern clocks, indicative of age.

A fine example of the bracket clock is shown in Figure 17, and is owned in White Plains, New York. It shows that it is a veteran, but it still is in going order, and it has beautiful spandrels and an engraved face. It has been in the possession of the family for over one hundred years, and in the upper circle has, in black enamel, "William Buttock, Bradford." The spandrels or brass ornaments in the corners of the face point to the first half of the eighteenth century as being the time when it was made. The case is of mahogany and there are brass screens at the sides to permit the sound of the striking to be distinctly heard. This clock is very similar to one at Windsor Castle, made by Justin Vulliamy, who came from Switzerland and settled in London in 1730. He became noted for the beauty and accuracy of his timepieces, and was appointed clockmaker to the King during the reign of

Fig. 17. Bracket Clock, owned in White Plains, N. Y.

Fig. 18. Brass Table Clock
Made in Rotterdam, late seventeenth century
Metropolitan Museum of Art, N. Y.

Fig. 19. Hexagonal Table Clock
Said to have belonged to Frederick the Great
Metropolitan Museum of Art, N. Y.

George II. The succeeding members of the family held this office in the different reigns till the death of Benjamin Lewis Vulliamy in 1854. Specimens of his work abound in the royal palaces, and many of the clocks of Queen Victoria that were in active service were by him.

The form and designs of the spandrels are to a certain extent indicative of the age of clocks, at least those made by London men. In 1671 the Clockmakers' Company obtained the right to have a coat of arms, and in the clock which is a portion of the device is seen the spandrel of the single cherub's head surrounded with arabesques. This was used for forty years or more, being followed by two cherubs upholding a crown, which design degenerated later into a very large crown and very small cherubs. Then the cherubs were omitted entirely, and floriated forms of more or less merit took their place. At first the spandrels were carefully worked up with hand tools, but during the George III. period and later they were cast and put in place without any tool work.

On many of the clocks of the seventeenth century, the maker's name will be found engraved on the edge of the dial-plate below the circle with the numerals. Later it was engraved on the dial-plate between the figures V and VII. Sometimes two names are found, particularly in the earliest clocks, and in this case the name engraved in the centre of the dial surrounding the hands is the name of the maker, while the name at the foot of the dial is the name of the seller of the clock.

Some of the most famous English clockmakers prior to 1700 were: Bartholomew Newsam, who was established in London from 1568 to 1593; Rainulph Bull, keeper of His Majesty's great clock in 1617; Ferdinando Garrett, a working clockmaker, in 1600; William North, in 1615; Thomas Alcock, in 1661; and Daniel Ramsay, in 1610. The Clockmakers' Company was chartered in 1631 and was a trade guild for protecting the trade in London, or within ten miles thereof. Edward East, one the most noted of English makers, was at work by 1620, and became watchmaker to Charles I. Henry Jones was at the height of his fame about 1673, and Samuel Betts about 1640. Thomas Tompion, known as the "Father of English watchmaking," had by 1658 attained much renown. He was succeeded by Daniel Quare, who had a shop at St. Martin's le Grand, London, in 1676. There was also Timothy Gray, 1633; Peter Laundre, 1640; James Gibson, 1669; James Clewes, 1670; John Hunt, 1671; Thomas Grimes, 1671; Joseph Windmills, 1671; William Dent, 1674; Charles Le Febuce, 1687; and scores of others whose names are given in the list of foreign makers.

TABLE CLOCKS AND EARLY WATCHES

As long as hanging weights were used to drive the mechanism of timepieces, they were of necessity stationary; but with the invention of the coiled spring, about 1500, portable timekeepers began to appear. The earliest ones came from Nuremberg, a great centre for the clockmaking industry, and from there the art of clockmaking spread through many German towns, to Holland and France, so that by the next century they were no longer so rare and costly as to be mere luxuries for the wealthy.

The difficulty of making the mainspring run with equal power, whether it was fully wound or had run some hours, was one which caused early clock and watch makers much trouble. In 1525 Jacob Zech, Prague, invented the fusee, which solved the difficulty.

The mainspring, a long flexible ribbon of steel, is fixed at one end to an arbor, around which it is tightly wound. The arbor and spring are inserted in the barrel or circular box, the outer end of the spring being attached to the inner side of the barrel. A rachet and click prevents the arbor from turning, and the spring in its effort to uncoil causes the barrel to turn around.

The fusee, which is a sort of cone-shaped pulley,

works between the barrel containing the mainspring and the train of wheels the mainspring is to drive. A string of catgut or a chain is connected at one end to the circumference of the barrel and wound around it, the other end being fixed to the larger end of the fusee, which is attached to the driving-wheel of the watch or clock, by the intervention of a ratchet and click. To wind up the spring the fusee is turned backward by means of a key, and this draws the spring from off the barrel on to the fusee. The force of the spring causes the fusee to rotate by pulling the string off of it, coil by coil, and so to drive the train of wheels.

In these early clocks of the sixteenth and seventeenth centuries, the verge escapement was used. There was no spring to regulate the motion of the balance, so that they were not very accurate timekeepers. But as they had but a single hand, which travelled round the circle on which the hours were marked, small irregularities remained unnoticed.

Many portable clocks were made in fantistic designs, and all kinds of materials, including gold, silver, brass, wood, ivory, alabaster, and marble, were utilised. One of these portable clocks, shown in Figure 18, was made by William Prins, Rotterdam, late seventeenth century. It is of brass, the case is five inches high, and the wrought brass feet and spandrels are of excellent workmanship. It is the property of the Metropolitan Museum of Art, New York City.

The second example, Figure 19, is of a later period, and has minute as well as hour hand and chimes. It

is hexagonal, of brass, gilded, sides pierced and glass let in so that the works may be seen. The maker was Woolman, Tilse, and the clock has on it in silver the cipher of Frederick the Great, which would place it somewhere between 1740 and 1786. This is also at the Metropolitan Museum.

Early Watches

Many of the early watches were not very different from table clocks, and too large and clumsy to be worn on the person. An interesting clock-watch of bronze gilt, with outer case pierced, having hour and minute hands, striking the hours on a bell, is shown in Figure 20. It is six inches long to top of holder, is supposed to be of German manufacture, seventeenth century, and it is marked "H.R.K." This is to be found among the collection of timekeepers presented to the Metropolitan Museum by the late Dr. Thomas Egleston.

In the "History of Watches and Other Timekeepers," by J. F. Kendal, he gives some quotations from the "Historical Manuscripts Commission," in regard to an agreement dated 1599 between Michael Neuwers, a clockmaker, and Gilbert, Earl of Shrewsbury, for the construction of a clock. It is agreed that the clock shall be about the bigness of the one made six years past by Michael, that it shall strike, and that it shall be finished by the last of December next.

"The cover or case of it to be of brass, very well gilt, with open work breaking through all over, with a small fine hand like an arrow, clenly and strongly

made, the white dial-plate to be made of French crown gold, and the figure to show the hour and the rest to be enamelled the fynelest and daintyest that can be, but no other colour than blue, white and carnelian, the letters to be somewhat larger than ordinary. The price of the clock must be £15, which makes, with the earnest already given, £16, but the circle I must pay for, beside the gold which shall make it. The sides of the brass case must not be sharp, but round, and the case very curiously made."

An odd and handsome silver watch is shown in Figure 21. The dial is richly engraved, and the outer case is of tortoise-shell with overlay of silver. The most curious part of the watch is the crank key. The maker was John Mitzell, London, and the watch is dated 1697. Metropolitan Museum.

A very magnificent chatelaine and watch by John Gregson, London, is given in Figure 22. This watch has a history, since it belonged to Queen Charlotte, wife of George III., and mother of George IV., known during a long regency as Prince of Wales. Gregson was accustomed to style himself "Watchmaker to the Prince of Wales," and certainly he turned out articles of beauty and richness. Both watch and chatelaine are thickly incrusted with diamonds, which show off admirably against the dark blue enamel background. The watch is open face, and on the back are the entwined initials C. R. surmounted by a crown. This superb piece is at the Boston Museum of Fine Arts.

When watches were small enough, they were hung

Fig. 20. Clock Watch
Outer case pierced and gilt
Metropolitan Museum of Art, N. Y.

Fig. 21. Watch with Tortoise Shell Case
Dated 1697. John Mitzell, maker, London
Metropolitan Museum of Art, N. Y.

Fig. 22. Watch with Chatelaine by Gregson
Belonged to Queen Charlotte, wife of George III.
Boston Museum of Fine Arts

around the neck upon a chain. By 1650 very exquisite watchcases were made, enamelled in opaque colours, an art brought from France by such makers as Jean Toutin of Châuteau Surr, who was the inventor of the process of applying thick colours to thin plates of gold. These colours, melted with fire, yet retained their lustre. Some very fine examples of these splendid enamelled timepieces are given in Figure 23. The maker of the two upper ones was Abraham Louis Brèguet, a very famous French watchmaker, who excelled in the beauty and oddity of many of his watches. Both of these watches were open face, of gold, with rich coloured enamel decorating the back.

The middle watch, maker unknown, is a very charming one. The hearts are red enamel with pearls, and the wreath is in green enamel. This watch belonged to some member of the family of Edmund Hartt, that notable shipbuilder of Boston, whose work in building the "Constitution" and the frigate "Boston" called out the gift of a silver tea-set, made by Paul Revere, and "presented by a number of his fellow-citizens as a memorial of their sense of his Ability, Zeal and Fidelity in the completion of that Ornament of the American Navy. 1799." The two watches at the bottom are Swiss, the one with the head of Voltaire by Leonard Bordier, Geneva, about 1785. The setting around the portrait is of brilliants.

The remaining watch has a background of rich green enamel, with the figures in gay colours. The makers were Chevalier et Cie, Geneva, about 1750.

Another noted watchcase maker was Huand le

Puisne, who was famous for his figure painting. Then there were Henry Toutin, brother of Jean, Paul Viet, Morliere Chartiere, and Robert Vauquerall of Blois, who were celebrated for their enamelled work. Of course the elegance of these cases and their fragility necessitated for protection a loose outer case, making what was known as "pair cases." The use of these continued till into the nineteenth century.

You will often see in advertisements mention of shagreen as a material of these cases. This was, and is still, made in Astrachan, though in small quantity now. It is the tough skin which covers the crupper of either a horse or an ass. When it is being prepared, rough seeds are trodden into the skin, and it is then allowed to dry. The peas are shaken out and leave a pitted appearance to the skin, which is then stained green with sal-ammoniac and copper filings. The rough pitted surface is rubbed down smooth and this leaves white spots on the green ground. Knife handles were sometimes covered with it, and the watch-cases bound with gold or silver.

In the London *Spectator* are many advertisements of which the following is a sample: "Lost or Mislaid, a Gold Watch with a Shagreen-Case, whereupon is a Cypher intermingled Letters S. D. M. and the Plate Enammell'd with Adonis and Venus, with a Cupid who points the Hour with the Arrow, and has several Motions. Whoever brings the same to Mr. Charles Chales, a Banker at the Vine in Lombard street, shall have 3 Guinea's Reward, and no Questions ask'd. Thursday July 12, 1711."

Fig. 23. Enamelled Watches
These came in fashion about 1660
Boston Museum of Fine Arts

Fig. 24. Shagreen Case
Loose outer cases used from about 1650
Metropolitan Museum of Art, N. Y.

A fine gold watch with an enamelled dial and an outer case of shagreen is shown in Figure 24. It was made by Jean Baptiste Baillon, of Paris, about 1760. Below his name he signs himself "Horloger du Roy." Metropolitan Museum.

Another material used for watch-cases was called pinchbeck, after its inventor Christopher Pinchbeck. He discovered in 1721 an alloy of metals which closely resembled gold. He excelled in the manufacture of musical clocks, and his advertisement speaks for itself. It was published in *Applebee's Weekly Journal,* July 18, 1721:

"Notice is hereby given to noblemen, Gentlemen and Others, that Chr. Pinchbeck, Inventor and Maker of the famous Astronomico-Musical Clocks, is removed from St. Georges Court, St. Jones's Lane, to the sign of the 'Astronomico-Musical Clock' in Fleet St., near the 'Leg Tavern.' He maketh and selleth Watches of all sorts and Clocks, as well for the exact Indication of Time only, as Astronomicaly for shewing the various Motions and Phenomena of planets and fixed stars solving at sight several Astronomical problems, besides all this a variety of Musical performances, and that to the greatest Nicety of Time and Tune with the usual graces; together with a wonderful imitation of several songs and Voices of an Aviary of Birds so natural that any one who saw not the Instrument would be persuaded that it were in Reality what it only represents. He makes Musical Automata or Instruments of themselves to play exceedingly well on the Flute, Flaggelet or Organ, Setts of Country dances,

Minuets, Jiggs, and the Opera Tunes, or the most perfect imitation of the Aviary of Birds above mentioned, fit for the Diversion of those in Places where a musician is not at Hand. He makes also Organs performing of themselves Psalm Tunes, with two, three or more Voluntaries, very Convenient for Churches in remote Country Places where Organists cannot be had or have sufficient Encouragement. And finally he mends Watches and Clocks in such sort that they will perform to an Exactness which possibly thro' a defect in finishing or other Accidents they formerly could not."

His son carried on the business, and apparently pinchbeck was becoming too popular to suit him, for he advertises in 1733: "To prevent for the future the gross Imposition that is daily put upon the Publick, by a great Number of Shopkeepers, Hawkers, and Pedlars, in and about this Town, Notice is hereby given That the ingenious Mr. Edward Pinchbeck, at the Musical Clock in Fleet Street, does not dispose of one Grain of his curious Metal, which so nearly resembles Gold in Colour, Smell and Ductility, to any Person whatsoever; nor are the Toys made of the said Metal sold by any one Person in England except himself; therefore Gentlemen are desired to beware of Imposters who frequent Coffee Houses, and expose to Sale Toys pretended to be made of this Metal, which is a most notorious Imposition upon the Publick. And Gentlemen and Ladies may be accomodated by the said Mr. Pinchbeck with the following curious Toys, viz.: Sword Hilts, Hangers, Cane Heads, Whip Handles

for Hunting Spurs, Equipages, Watch Chains, Coat Buttons, Shirt Buttons, Knives and Forks, Spoons, Salvers, Tweezers for Men and Women, Snuff Boxes, Buckles for Ladies Breasts, Stock Buckles, Stock Clasps, Necklaces, Corrals. And in particular Watches plain and chased in so curious a Manner as not to be distinguished by the nicest Eye from real Gold, and which are highly necessary for Gentlemen and Ladies when they travel." This is but a portion of the advertisement, which in style much resembles that already given, extolling the virtues of his father's goods.

A very fine repeating watch with gold dial and white numerals is shown in Figure 25. The makers were Esquivillon et Choudens, Paris, 1780. The watch in the form of a lute and the rich one, heart-shaped and set with diamonds, are both by Bréguet, and date to the late eighteenth century.

The small one with wrought case of gold and red enamel is by Charles, Paris, late eighteenth century.

The watches in Figure 26 are more interesting than the enamel ones already shown. They were built for wear, while the delicacy of the former made them chiefly ornaments to be slung on a chain about a lady's neck. The first and largest on the top row was made by John Wilter, London, who was at work from 1760 to about 1780. It has three cases, one more than was common, the outer case of shagreen, the next repoussé, and the inner one plain. The face is silver, beautifully engraved. The one beside it is by David Lestourgeon, London, a member of the Clockmakers' Company, and a well-known maker. He was admitted

1721, and for thirty years made watches and clocks.

The watch directly below the one by Lestourgeon was made by William Millet, who was admitted to the Clockmakers' Company in 1714. In common with all the others on this page, this watch has very beautifully pierced hands. Both cases, outer and inner, are of silver.

The last watch was made by Robert Hardy, London, who was admitted to the Clockmakers' Company about 1776. The cases of this watch are gilt, the dial silver. The four cover a period of perhaps sixty years, showing how long the same style remained in vogue.

All these watches have the maker's name on a little band just above the nut which holds the hands. The two lower ones have the opening for showing the day of the month.

Some ornamental cases are shown in Figure 27, the watch showing its dial having two cases of silver, richly pierced. This watch has also an alarm attachment, the hand for setting the alarm showing just below the minute hand. The maker was Jacob Massy, London, who was admitted to the Clockmakers' Company in 1715.

The gold watch beside it is a repeater, with pierced inner case to allow the striking to be heard. It was made by John Meredith, of London, about 1760, and is a very beautiful specimen.

The two lower ones have cases of black leather and shagreen. The leather one is studded with silver and gold nail-heads, while the watch it contains is made

Fig. 25. Gold and Enamelled Watches
Repoussé work on watchcases introduced by 1670
Boston Museum of Fine Arts

Fig. 26. Watches with Metal and Shagreen Cases
Boston Museum of Fine Arts

of silver and brass. The name of Caspar Sackerer is upon it and the watch was bought in Munich.

The one with the cock is made of shagreen, and it encloses a gold repeating watch made by Richard Street, London, a very early example, for he was a member of the Clockmakers' Company in 1687. He was connected with the company for nearly thirty years, and made clocks as well as watches. The inner case of this watch is pierced like the previous example. The examples in Figures 23, 25, 26, and 27 are at the Boston Museum of Fine Arts.

Figure 28 shows an interesting group of watches which are a part of the collection of Mrs. George A. Hearn, New York. The one by "Blainville à Rouen," with three dials, belongs to the late seventeenth century. The dials tell days of the week, of the month, and the lower one is the timekeeper. The watch to the right is by John Wilter, London, who made many calendar watches. He was at work by 1760, and was active for at least twenty years in the trade.

The maker of the central watch, William Travers, was a well-known London maker as late as 1810. The most interesting of the watches given here is the lower one. Both back and front are shown. It was made by "B. Hubert à la Rochelle," early eighteenth century, and is a metal pendulum watch, richly engraved, with enamel placques showing the hours. This arrangement of balance was one used by early French makers, and was not so hard to keep in order as when the semicircular slit is on the dial face, a fashion occa-

sionally employed by English makers. The weighted arms of the balance, one of which appears through the slit, has a vibrating motion something like a pendulum, hence the name.

Watch Papers

Small round papers of a proper size to fit into the case of a watch were popular both in England and America. Mention is made elsewhere of an advertisement by Hugh Gaines, printer, of a portrait of Secretary Pitt for a watch-paper.

However popular Mr. Secretary Pitt was in this country, in England he was in high disfavour among the watch and clock making fraternity. For during his administration an act was passed levying certain duties upon clocks and watches, to be paid by the possessors of them.

It was ordered by this act that, after July 5, 1797, an annual duty of five shillings should be charged on every clock or timepiece kept; for every gold watch, kept, worn, or used, ten shillings; for every silver or metal watch, two shillings and sixpence per annum.

From this tax the royal family, hospitals and churches, farm-labourers, soldiers, and sailors were exempt. Nor did it extend to the stock of watch and clock makers, nor pawnbrokers, but they had to have an annual license which cost two shillings and sixpence. This law was repealed in 1798, owing to the representations of the clock and watch makers.

Fig. 27. Ornamental Cases
Boston Museum of Fine Arts

Fig. 28. French and English Watches
The lower one shows front and back of pendulum watch by Hubert
Collection of Mrs. George A. Hearn

Besides portraits, these watch-papers bore verses of a more or less moral quality, like this:

Little monitor, impart
Some instruction to the heart.
Show the busy and the gay
Life is hasting swift away.
Follies cannot long endure,
Life is short and death is sure.
Happy those who wisely learn
Truth from error to discern.

This one has quite as gloomy a sentiment:

Content thy selfe withe thyne estat,
And sende no poore wight from thy gate;
For why, this councell I thee give,
To learne to dye, and dye to lyve.

This, which was most sentimental, bears the date of 1730:

With me while present may thy lovely eyes
Be never turned upon this golden toy,
Think every pleasing hour too swiftly flies,
And measure time by joy succeeding joy.
But when the cares that interrupt our bliss
To me not always will thy sight allow,
Then oft with kind impatience look on this,
Then every minute count, as I do now.

They sometimes hid a political significance too, and bore the likeness of the one favoured, like those of William, Duke of Cumberland, 1746, and Queen Caroline, 1821, to come to a more modern period. They were made and worn after 1837, for I have seen them with a picture of Queen Victoria on them. Occasionally they were made of silk or velvet, embroidered or painted, sometimes of cut paper. The gathering of these little papers occasionally occupies the attention of

collectors, particularly in England, where they are more common than in this country.

The papers in America had many advertisements of lost watches, many of them by English makers, like the following, from the *Columbian Centinel,* September 11, 1790:

"Lost on Wednesday in Cambridge, a silver watch, maker's name George Clarke, No. 34692."

Silver watches were not considered cheap in those days, and in the same number of the *Centinel* this notice appears:

"On Tuesday next will be sold at Publick Vendue at Lewis Hayt's office [now follows a list of household goods]. Also taken by execution an elegant new silver stop watch, well calculated for a Physician—it points out the day of the month, hours, minutes, seconds."

There is an ancient watch in Watertown, N. Y., made by Thomas Linhard of London, who had a shop in Fleet Street between 1638 and 1658. The history of this watch is connected with painful times in our own early history. It was sent as a gift by George III. to Sir Wm. Johnson of Johnstown, Montgomery County, N. Y., just before the war of the Revolution. It weighs five and a quarter ounces, the works show a chain working over a drum, and the wheels and pivots are large and heavy. The dial and works are silver, as is the outer case. It is in going order, the last repairs on it being in 1847.

When Joseph Brant, the Indian leader, started on his death-dealing expedition through Cherry Valley,

Sir William gave him this watch to encourage him in his deeds of violence. To repay his chief, Joseph Brant promised to bring back from the expedition forty white scalps. But though settlers were massacred by the score, Brant's party suffered too, and in one of the skirmishes this watch fell into the hands of the patriots, Evart Van Epps, a Revolutionary officer, being the one who secured it. Mr. Van Epps married into the Minthorn family, and the watch has remained in their possession ever since.

There are many splendid collections of watches, both public and private, in this country and Europe, and the subject requires as extended treatment as do clocks. It has not been attempted here. As in the case of clocks, America has demonstrated her ability to make cheap and accurate timekeepers, but for perfect elegance and beauty one must revert to the labours of these old makers, who lavished patience, skill, and art on the marvellous timekeepers which grew under their hands, piece by piece, and were not "assembled."

The watch, like the ring, has long been used as the little gift of love, and from its invention, which is conceded to have been about 1477, to the present time, most artistic work and rich jewels have been lavished on them. In the inventory of Queen Elizabeth, twenty-four watches and "smale clocks" are mentioned, most of them heavily jewelled with "faier rubies, diamondes, emerodes and opalls."

Her unhappy rival, Mary Queen of Scots, owned some choice examples of the horologist's craft, among them one of silver-gilt in the shape of a skull. She

bequeathed it to Mary Setoun, 1587, and it still tells the hours on a silver bell.

Everywhere you come upon the watches of famous men and women, treasured by their descendants, or deposited in museums, and there is no personal relic which seems to bring us nearer to the original owner.

A thousand times in her faire hand it lay,
A thousand times its jewel'd face she scann'd.
While she lies mould'ring in a distant land
E'en yet ye watch its silly tunes can play.
And I, like ye poor watch, run on,
Though she, the lady of my harte, be gone.

LONG-CASE CLOCKS

The old crown-wheel escapement, which was in use in clocks during the thirteenth, fourteenth, and fifteenth centuries, when timekeepers were made chiefly for towers and monasteries, kept fair time so long as the motions of the wheel and verge were exactly uniform. Any inequality affected the accuracy of the timekeeping qualities. They were commonly driven by a spring instead of a weight, and this spring was a strip of steel, not often of good quality, wound upon a drum. As it unwound, the movement of the clock became slower, because the acceleration on the verge was weaker.

The invention of the fusee remedied this. The spring was placed within the drum and one end of it was fastened to an axis, while the other was fastened to the inside of the drum. As the drum was moved by the spring, a cord was wound on the surface of the drum, and as the spring pulled strongly at first, gradually growing weaker, this action was imparted to the cord.

To render the movement less variable, a cone-shaped wheel with a spiral track cut in it was provided for the cord, the proportion being such that the leverage be-

came greater as the pull of the cord grew weaker, and by compensation the turning power of the axis was kept regular.

These clocks were converted into pendulum clocks by removing one of the balls on the verge, making the verge longer, and increasing the weight of the remaining ball. But after a time these clocks went out of use, with the crown-wheel escapement; and the anchor escapement was responsible for the timepieces we now know as "grandfather clocks." The wheel was still there, but flattened out, the teeth being flat with the wheel. The pallets were fixed on an axis and their shape was somewhat altered. The pendulum was now hung from a thin steel spring, which allowed it to swing without friction, instead of being placed on the axis which carried the pallets.

With a pendulum carrying a heavy bob, the force of gravity caused the motion of the pendulum to become almost entirely harmonic, and its slight variations had small effect upon the going of the clock. With an anchor escapement, the swing of the pendulum was slight, and with a long pendulum the arc of oscillation could be made small. It is the length of the pendulum, with its motion being very nearly harmonic, which enables these old clocks to remain excellent timekeepers for so many years.

The credit for introducing the pendulum into England is ascribed to the Dutchman, Ahasuerus Fromanteel. The first clockmaker by this name was one of the charter members of the Clockmakers' Company,

1632. He died in 1650. Evelyn records in his diary for May 3, 1661, "returned by Fromantil's, ye famous clockmaker to see some pendules." In the records of the Clockmakers' Company, another Ahasuerus Fromanteel was admitted in 1655, died in 1670. His advertisement, which appears in the *Commonwealth Mercury* for Thursday, November 25, 1668, reads as follows:

"There is lately a way found out for making clocks that go exact and keep equaller time than any now made without this regulator (examined and proved before his Highness the Lord Protector by such doctors whose knowledge and learning is without exception), and are not subject to alter by change of weather as others are, and may be made to go a week, or a month, or a year, with once winding up, as well as those that are wound up every day, and keep time as well; and is very excellent for all house clocks that go either with springs or weights; and also steeple-clocks, that are most subject to differ by change of weather. Made by Ahasuerus Fromantel who made the first that were in England. You may have them at his house, on the Bankside, in Mopes Alley, Southwark, and at the Sign of the 'Maremaid,' in Lothbury, near Bartholomew Lane End, London."

There is in the Museum of the Clockmakers' Company in London a clock by the first Ahasuerus Fromanteel. It is an eight-day, weight, with crown-wheel escapement. The maintaining power is so arranged that it must be brought into action before the winder can be applied. This clock was made before the sec-

onds pendulum came into general use, but the workmanship is of a high quality. The catalogue further states that other members of the family were at work in London till 1680, and were connected with the company.

A clock by John Fromanteel, Figure 29, one of the members of this distinguished family, is at the Library Company, Philadelphia. The dial is marked below the number circle, "Johannes Fromanteal, London, Fecit." This Johannes was admitted to the Clockmakers' Company in 1663, and like others of his family was to be found at the "Maremaid" at Lothbury.

This clock is said to have belonged to Oliver Cromwell, whose interest in the Fromanteels has been shown in the advertisement of Ahasuerus Fromanteel, Jr. It formerly belonged to Mr. Samuel Hudson of Philadelphia. After his death, in 1793, his son presented it to "the Library Company of Philadelphia," with the note: "It is believed to be the Oldest Chronometer in the City and Tradition informs us that Samuel Hudson's Great grandfather purchased it at auction in England; when the Auctioneer told his Audience it had been in the possession of Oliver Cromwell." This note is dated 1804.

The clock case is of oak, 6 ft. 7 in. high, 14 1-2 in. wide and 10 1-2 in. deep. The hood lifts off, and there are two pairs of carved twisted pillars. There are the arrow-heads between the numerals to denote the half-hours, and the days of the month are shown in the square opening below the hands.

Oak has always been a favourite material for clock

Fig. 29. Long-case Clock by Fromanteel
One of the Fromanteels introduced the pendulum into England
Library Company, Philadelphia, Pa.

Fig. 30. Long-case Clock by Tomlinson
Well-known English maker
Owned by Mrs. H. L. Reading, Bedford City, Va.

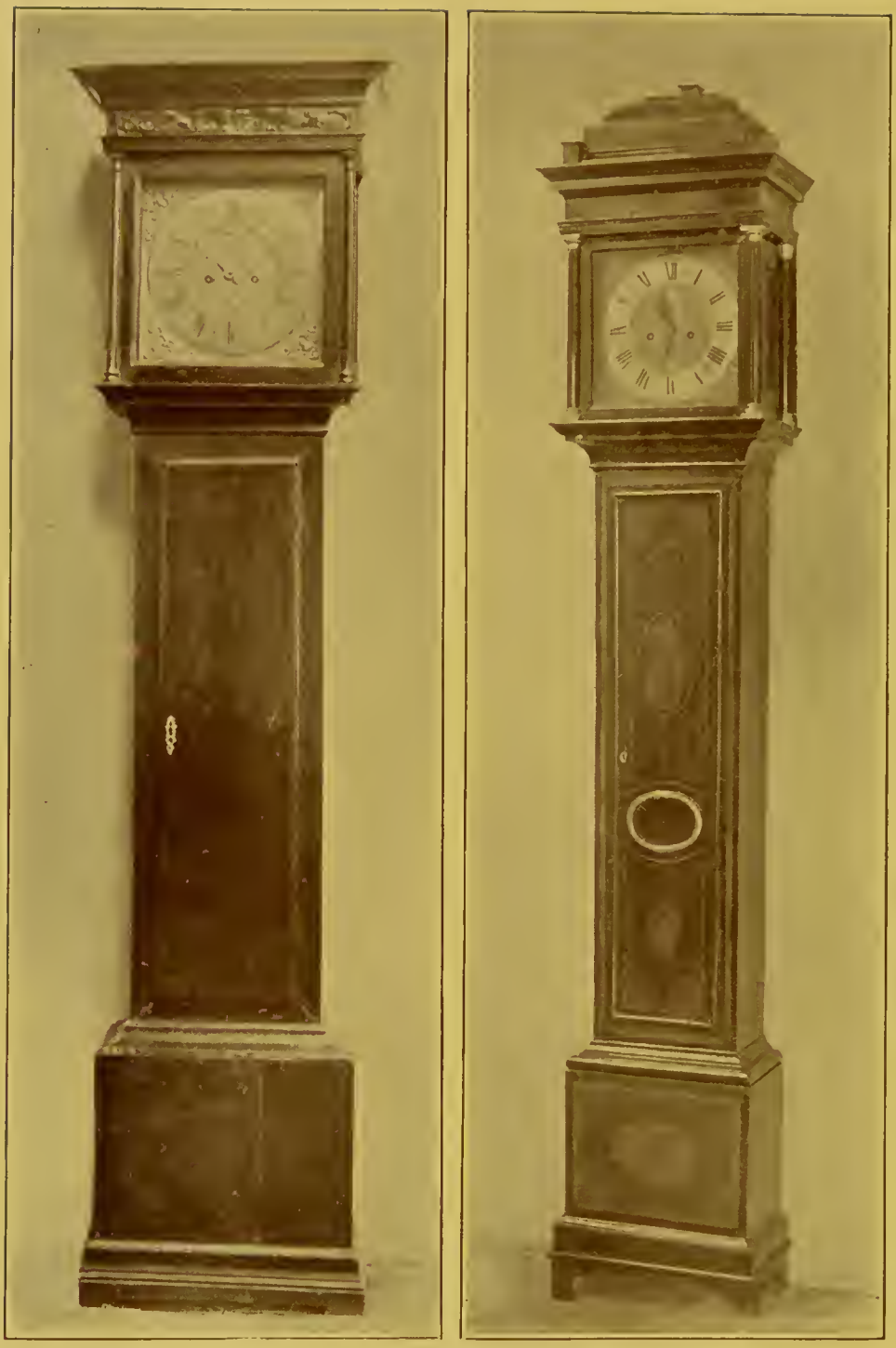


Fig. 31. Long-case Clock by Smallwood
Worked in Litchfield, England, 1750
Owned by F. W. Phillips, Hitchin, Eng.

Fig. 32. Restored Clock

cases, and walnut, both plain and inlaid, was favoured from 1675 to 1725. Very elegant cases of Dutch marquetry were made as early as 1665, and specimens of Oriental lacquer were by no means unusual, from the middle of the eighteenth century. An early and interesting old clock by William Tomlinson, London, 1699-1735, is shown in Figure 30. Like many of its contemporaries, it keeps fine time, and its owner is very proud of it, since it has never been out of the possession of the family since it was first brought to this country, and has always marked the time for its owners.

It is unusual from its style of decoration, which the photograph scarcely reveals. The wood is walnut, finely veneered on oak, and the whole case, base, waist, and hood are completely covered with a fine network of marquetry, known as the "seaweed" pattern. There were variations of this pattern called "spider's web" and "leaf pattern," which, like the seaweed, almost obliterated the beautiful graining of the wood.

These clocks were very finely proportioned and graceful, the hood lifts off, the dials are finely engraved, and the spandrels a cupid's head delicately chiselled. This marquetry was an English adaptation of the style so prevalent in Holland, and to some tastes is a great improvement, since it is very light and graceful, where the Dutch work is inclined to be heavy.

William Tomlinson, the maker of this clock, was admitted to the Clockmakers' Company in 1699, was an Assistant in 1726, and Master in 1733. A movement by him is in the Museum of the Clockmakers'

Company in the Guild Hall, London. This clock is owned by Mrs. H. L. Reading, Bedford City, Va.

A maker of clocks named Esoye Fleureau used marquetry cases exactly similar to the one by Tomlinson, shown in Figure 30.

Jonathan Loundes, of London, 1680-1700, also used these "seaweed" and "leaf" marquetry cases, though in his clocks the top is domed, with gilt balls, and some low relief carving appears on the hood. In some cases where the clock was too tall for the room where it was to stand, the base, or even a portion of the hood, particularly if the latter was domed, was ruthlessly sawed off. Many specimens of grandfather's clocks, otherwise perfect, have restored bases or domes, but it is generally easy to detect such substitutions.

The proportions of these clocks varied with the height, which ranged from about four feet six to ten and over. The lines were classic, the hood showing architrave, frieze, and cornice. In addition to the fretwork found on the friezes, the pillars, generally two, occasionally four, were grooved or had the twisted pillars so much used. Fretwork sometimes appeared on the sides of the hood to permit the sound to escape, and when the domed hood appeared the ornaments varied greatly, and were either of brass or carved wood.

The dial-plates were at first square, nine to ten inches. The figures were black on a silvered brass hour circle. Then came the finely engraved ones. The dial faces before the use of the second hand (see Figure 7) had the hour circle of silvered brass separate

from the centre, which was generally engraved brass. There were circles within the numerals, and on these were marked, by arrow-heads or fleurs-de-lis, the division of the hour spaces into halves, the quarters by small lines.

When the minute hand came into use, the figures denoting the minutes were placed without the hour circles, with lines denoting the minutes between the figures. The hands on old clocks are generally beautifully shaped and pierced (see Figures 15 and 17). A handsome clock of this period, with oak case and handsome brass dial, is shown in Figure 31. It was made by John Smallwood, Litchfield, England, showing that the country makers were not far behind their London brothers.

The clock in Figure 32 shows what sometimes happens to antiques. The domed top has been added, so have the feet, and the good oak case has been treated to some painted patterns which can never come under the head of decoration.

Tompion and Graham

The addition of an arch to the top of the dial caused clocks to have a more elegant appearance. Thomas Tompion, one of the most celebrated of English clockmakers, put it on some of his later clocks, one of which is shown in Figure 33. This clock appears very tall in the photograph, but it is in reality five feet two inches. It belongs to the Metropolitan Museum of Art, New York City.

Thomas Tompion, according to the records of the Clockmakers' Company, was born in North-hill, Bedfordshire, and is said to have been originally a blacksmith. That he should ultimately have become a clockmaker is not odd, since clocks were made by blacksmiths and the clockmaking industry was developed from that trade. Prior to the time of Queen Elizabeth, the craft of the horologer did not exist as distinct from that of the blacksmith, nor were there enough of them to form a separate guild.

It was in 1627 that the Free Clockmakers of the City, most of whom belonged to the Blacksmiths' Company, petitioned against allowing French clockmakers to pursue their craft in London. Not till 1631 was their own charter granted them, so Tompion's becoming a clockmaker was a natural evolution. After coming to London, he was found at Water Lane, Blackfriars. The portion where he lived, at No. 67 Fleet Street, at the Sign of the Dial and Three Crowns, became known as Whitefriars. Born in 1638, he was made free of the company in 1671, was one of the Court of Assistants, 1691, Warden, 1700-03, and Master 1704.

Among some of his notable achievements was the invention of the cylinder escapement, with horizontal wheel, in 1695; his improvements in striking clocks, for which he obtained a patent; and his introduction of the balance-spring for watches.

In 1675 he made a watch for Charles II., with a spiral balance or pendulum spring. One end of the spring was attached to the arbor of the balance-

wheel, while the other was secured to the plate, the elastic force of the spring rendering the oscillations regular.

Tompion died November 20, 1713, leaving his business in Fleet Street to his pupil and friend George Graham. Friends and associates for many years, death did not divide them, for master and apprentice were laid in the same grave and the same stone covers them both in the nave of Westminster Abbey. This is the inscription:

Here lies the Body
of Mr. Tho Tompion
who departed This
Life the 20th of
November 1713 in the
75th Year of his Age

Also the body of
George Graham of London
Watchmaker and F.R.S.
Whose curious inventions
Do Honour to ye British Genius
Whose Accurate Performances
Are ye Standard of Mechanical Skill.
He died ye XVI of November MDCCLI
In the LXXVIII year of his Age.

This stone was removed from the nave by the authorities of the Abbey about 1838. Mr. George Atkins, who was clerk of the Clockmakers' Company in 1842, called attention of the public to this act of desecration, through the newspapers. The large stone had been replaced by a small bit of marble on which was merely this:

Mr. T. Tompion 1713
Mr. G. Graham 1751

So much protest arose all over the kingdom that Dean Stanley had a search made for the stone, some time after 1869, when he wrote his "Historical Memorials," and it was fortunately found unbroken, and restored to its ancient position.

Of George Graham, Tompion's apprentice, partner, nephew by marriage, successor, and executor, much might be written. That he even excelled his master, Tompion, in the value and variety of his inventions is a fact, and he was acknowledged to be the foremost horologist of his time. Like so many other distinguished members of the craft, he was a member of the Society of Friends. He was born in Kirklinton, Cumberland, July 7, 1673. In 1688 he came to London, and in that same year began his apprenticeship in the Craft and Mystery of Clockmaking with Henry Aske.

He was subsequently employed by Thomas Tompion, and married Elizabeth, who was the daughter of James Tompion, brother to Thomas. In 1713, on Tompion's death, he succeeded to the business. In 1715 he was made Freeman of the Clockmakers' Company, Warden from 1719-21, and Master in 1722.

Among his inventions was the dead-beat escapement; the application of a compensating power to counteract the effects of heat and cold upon the lengths of a pendulum (1715); and in 1724 he greatly improved the horizontal escapement invented by Tompion.

He was an ingenious and skillful maker of mathematical instruments, made the first planetarium used in England, and was famous for his watches with horizontal escapement. He was known as "honest George

Graham," and his shop was called "The Dial and One Crown."

In Wood's "Curiosities of Clocks and Watches" he says that Graham was the fashionable watchmaker of the day, and that in the *London Magazine* for 1753 the ingredients given as required in the manufacture of a fop include:

> A repeater by Graham, which the hours reveals,
> Almost over-balanc'd with Knick-Knacks and seals.

The cases of many of Graham's watches were works of art, pierced, chased with mythological subjects, ciphers and scrolls, and heavily jewelled. Short or long chains were attached, on which were hung tassels of gold, two or three lockets, lozenge-shaped boxes, seals and miniatures, which must have made a merry clanking as the owner walked.

Edward Barlow

The Rev. Edward Barlow, born in 1634, died in 1716, made claim in 1686 that he was inventor of "rack" repeating or striking work for clocks. He petitioned the company for a patent, which was denied, in common with most applications for patents, since the company seemed desirous that all its members should share in those inventions made by the most ingenious. The following is the Order in Council concerning the patent:

"At a Court at Whitehall, 2nd March, 1637. Present, The Kings most excellent Maj'ty in Councill.

"Whereas on the 24th of February last his Maj'ty

thought fitt to appoint this day to hear the Master Wardens and Assistants of the Fellowship of the Art or Mistry of Clockmaking of the City of London against Edward Barlow, in whose name a Patent is passing for the sole makeing and manageing all pulling clocks and watches, usually called Repeating clocks, And both parties attending accordingly were called in and heard by their Councill learned.

"His Majesty in Councill haveing fully considered what was alleadged on either side, Is pleased to Order and it is hereby ordered That no Patent be granted to the said Edward Barlow or any others for the sole makeing and manageing of pulling clocks and watches as aforesaid, The same being now made by severall Clockmakers, whereof all persons concerned are to take due notice."

Daniel Quare, another distinguished member of the Clockmakers' Company, admitted 1671, Master 1708, was, like the Rev. Edward Barlow, an inventor of mechanism for the making of pulling and repeating watches and clocks. His invention antedated Barlow's by about ten years, and in 1686 or 1687, when Barlow's petition for the patent was laid by the Clockmakers' Company before James II., with the request that he should not grant it, that monarch decided the matter in a truly kingly fashion.

He had both Barlow and Quare make him a repeating watch, and tried both, giving the preference to Quare, a fact which was duly announced in the *Gazette*. A description of the identical watch made by Quare for the test was printed in the *Morning Chroni-*

Fig. 33. Long-case Clock by Tompion
Inventor of dead beat escapement, 1695
Metropolitan Museum of Art, N. Y.

Fig. 34. Long-case Clock by Quare
Inventor of repeating watches. 1687
Hampton Court, Eng.

Fig. 35. Oriental Lacquer Case by Vincen
Real lacquer mounted on oak
F. W. Phillips, Hitchin, Eng.

Fig. 36. Lacquer on Oak
English work

cle, in 1823, and a very splendid and sumptuous time-keeper it was. Indeed Quare made very fine clocks and housed them in rich and elegant cases, as may be seen by the example by him shown in Figure 34.

This clock is at Hampton Court Palace. The three figures on the top are gilded, and it goes twelve months without winding. It is said he made but three clocks of this pattern.

In 1695 a patent was granted him for a portable weather-glass or barometer, and he gained much fame for placing the minute hand in clocks concentric with the hour hand. He died in 1724.

The long-case clocks shown in the next four illustrations, Figures 35, 36, 37, and 38, are all eight-day striking clocks with brass movements. They show what splendid cases could be obtained in real Oriental lacquer like that in Figure 35, made by William Vincen, Portsmouth, England, during the first half of the eighteenth century. The lacquer is gold on a black ground, the dial silvered, and the case is seven feet high.

The clock in Figure 36 is one of those examples made, no doubt, by some of the Dutch artists in marquetry who settled in London in the seventeenth century. The lacquer is on oak, and in addition two scenes are painted on the long door of the case. The clock is eight feet three inches high with beautifully engraved gilt balls. In Figure 37 is an example of what the country clockmakers could do, the dial painted white being the only thing which detracts from the great beauty of this example. The clock is seven feet

six inches high, with a rich green lacquer, the decoration being in reddish gold. It was made by Richard Clementson, Dunstable, about 1745. The hands are finely pierced, of steel, and it is probable that the painted dial is a later addition.

The clock in Figure 38 was imported from London in 1738 by Thomas Hancock, and then descended by inheritance to John Hancock. It was made by Marmaduke Storr, foot of London Bridge, who was a famous maker in his day. The order reads that the clock was to be ten feet long, "the price 15 not to exceed 20 Guineas, and as it is for my own use, I beg your particular care in buying of it at the Cheapest Rate. I am advised to apply to one Mr. Marmaduke Storr, at the foot of London Bridge." This clock was for a time on exhibition at the Boston Museum of Fine Arts, but has now been withdrawn by the owner.

Another clock which also belonged to the Hancock family, and which is now the property of the American Antiquarian Society of Worcester, Mass., was by an equally famous maker, Devereux Bowly, who died in 1773. He was master of the Clockmakers' Company in 1759, and left £500 to the poor of the company. His clock had a walnut case, which was specified in Mr: Hancock's order, but the other clock was from Storr, so it seems more likely to have been the one sent on order. At any rate a house as large and elegantly appointed as that of the Hancocks' would be likely to have more than one tall-case clock. But some time before these dates, elegant and elaborate clocks were sent to America.

Fig. 37. Green Lacquer Long-case Clock
By Clementson, Dunstable, Eng.

Fig. 38. Oriental Lacquer Case
This clock belonged to John Hancock

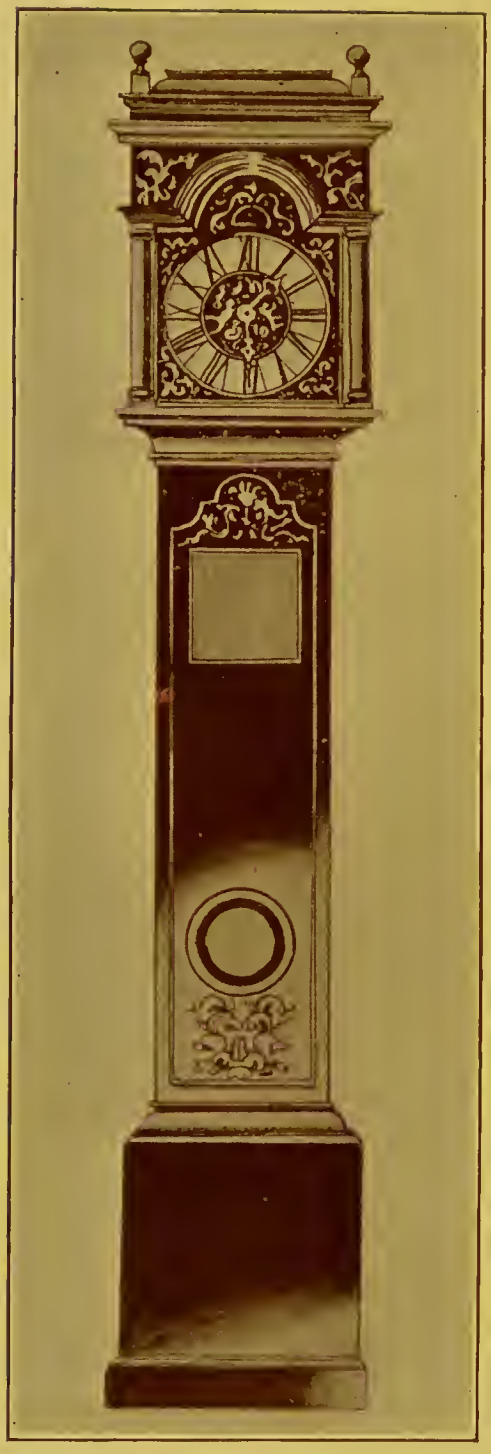


Fig. 39. Long-case Clock by Harrison
Inventor of Marine Chronometer, 1791

Fig. 40. Long-case Clock by Stock
At work in London by 1700

In old newspapers like the *Boston News Letter* there are advertisements like this of a man who "performed all sorts of new Clocks and Watch works, viz.: 30 hour clocks, week clocks, month clocks, Spring table clocks, chime clocks, quarter clocks, quarter chime clocks, turret clocks, etc." A few years later, in 1716, there were advertised "lately come from London, a Parcel of very Fine Clocks. They go a week and repeat the hour when Pull'd. In Japan cases or Wall Nutt."

John Harrison

John Harrison, born near Pontefract, Yorkshire, in 1693, was another man whose inventions advanced the science of chronometry. He was never enrolled in the Clockmakers' Company, but, having a mechanical bent, and his father's trade being carpentry, he gradually turned his attention to the casing and making of clocks.

By 1726 he had made two clocks, chiefly of wood, in one of which he had placed a "gridiron" pendulum of his own invention. So carefully made and delicately adjusted was this timekeeper that a contemporary writes of it that "it did not err a second in a month." In 1713 a reward of £20,000 was offered to anyone who could discover a method of ascertaining longitude at sea. John Harrison came to London in 1728 with drawings of an instrument for the purpose, but was advised to make the instrument before applying to the Commission. He returned again to Lon-

don in 1735, and his instrument was of sufficient accuracy to cause the Commission to give him £500, and encourage him to proceed.

He made a second instrument in 1739, and a third in 1749, and finally, in 1773, the last half of £20,000 were paid him, for the Board of Longitude had in 1765 determined that the performance of Harrison's timekeeper had entitled him to the reward.

The fourth instrument was made in the form of a pocket watch about six inches in diameter. It was finished in 1759. Two trials of its accuracy were made, and on both voyages it corrected the longitude within the limits of the Act of 1713. He also invented the metallic compensation, a remontoir, and added a secondary spring as a substitute for the maintaining power during the time of winding up. He was engaged in the improvements of chronometrical mechanism during his sixty years of business life, and died in 1776, eighty-three years of age.

The clock shown in Figure 39 was made by Harrison about 1715 and is preserved at the Guild Hall, London. A very handsome clock in a rich lacquer case is shown in Figure 40. It has a splendidly engraved dial and in the circle at the top is the maker's name, Jabez Stock, Whitechapel, 1700.

Occasionally there are to be found in America some of the splendid clocks which were made by artist artisans in the eighteenth century, when such men as the two Caffieri, father and son, made such splendid metal mounts, and the Boulles made this style of decoration famous.

Fig. 42. Act of Parliament Clock
Made when clocks and watches were taxed
F. W. Phillips, Hitchin, Eng.

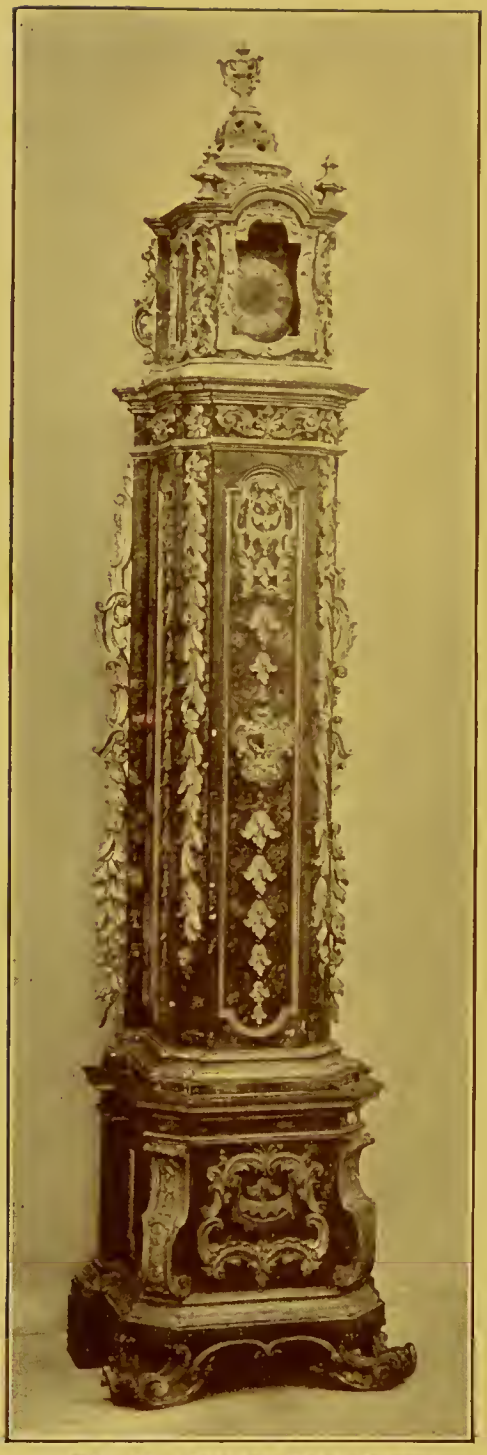


Fig. 41. Italian Tall Clock
Wood, richly painted and gilt
Metropolitan Museum of Art, N. Y.

Fig. 43. Long-case Clock by Cowan
An Edinburgh maker. 1760-81
Metropolitan Museum of Art, N. Y.

The clock shown in Figure 41 is of Italian work, maker unknown. The case is of wood, painted and gilded, and in the centre of the door of the case is the coat of arms of the Doria family. It is a very interesting clock, though the top seems too small for the body of the case. It is over six feet tall and a very splendid and ornate piece. Indeed all clocks have a "human interest" attached to them, but this one rouses a host of speculations as to its past history, its wanderings, and how it came finally to a resting-place in America. It was given by Mr. W. B. O. Field to the Metropolitan Museum of Art.

The tax upon the use and wearing of watches and clocks proposed by Mr. Pitt in 1797, of 2s. 6d. per annum on each silver watch, and 10s. for each gold watch, and 5s. for every clock, had a disastrous effect upon the trade. The act was only in force one year, but in the mean time a sort of clock, which came to be known as "Act of Parliament" clock was made, not only in London, but in country districts as well. They were found in many inns and taverns, put there by the keepers for the benefit of their customers. One is shown in Figure 42. They often had the dials painted black with gilt figures, and with a glass cover to the case, but many were made like the one in the figure.

Few acts with regard to taxes on manufactures met with the opposition of this one, for not only were remonstrances filed from the workmen engaged in the various branches of clock and watch making in London, reduced to the verge of starvation, but protests came in from all the clockmaking centres of the king-

dom, Coventry, Bristol, Leicester, Prescot, Newcastle-on-Tyne, Liverpool, Derby, and Edinburgh, where a great clockmaking industry was carried on.

Scottish Makers

The making of clocks in Scotland was not recognized as a separate craft till about 1640. In Aberdeen in 1618 there were but three clocks, "the Kirk Knok, Tolbooth Knok, and the College Knok, all out of repair because they are auld and worne and partlie for want of skilful men to attend them."

Mr. John Smith's interesting little book "Old Scottish Clockmakers" gives an account of the progress of the craft in Scotland. The clockmakers were recognized as a branch of the Hammermen in 1646 in Edinburgh, 1649 in Glasgow, 1753 in Haddington, and not till 1800 in Aberdeen.

Mr. Smith says: "After 1700 the art and craft of clock and watchmaking increased, so that by the close of the eighteenth century Scotland was enabled to turn out work of the highest class. For a number of years into the nineteenth century good and honest work was the rule; but the practice of importing movements and parts of movements and merely putting these toegther arose, so that by 1850 or thereabouts the trade declined. This and the cheap American and other importations combined to extinguish an industry and a class of craftsmen who were as necessary in every village and town as the doctor or minister. The cheapness of these imported movements made it impossible for our native craftsmen to compete, and a

wave of mistaken prejudice having arisen against the preservation of the long-case clocks, large numbers were destroyed for no other reason than that they were thought old-fashioned."

Like the German clockmakers, the Scottish applicant for entrance into the Guild had to make a timepiece to prove his ability and to gain entrance among the Freemen.

There were a number of very distinguished Scottish makers: such men as Humphrey Mylne, 1661; Andrew Brown, 1665-1711; Alexander Brownlie, 1720-39; James Cowan, 1760-81; John Smith, 1770-1809; George Munro, 1750-99; Paul Roumieu, 1692-1710; Thomas Gordon, 1703-43; being but a few of them.

Nor are clocks by Scottish makers very rare in America, for besides those bearing the makers' names, I know of at least half a dozen which have "Corbals" on the dial-plate. This is a suburb of Glasgow, and apparently there is, or was, a clock works there. During the eighteenth century the clockmaking centre of Edinburgh was Parliament Square, where the shops fairly clung to the walls of the great building, like swallows' nests.

A very handsome clock by James Cowan, Edinburgh, is given in Figure 43. The photograph is deceptive, since the clock looks very tall, while in reality it is but five feet two inches in height. The beautiful case is of mahogany, richly carved, and the clock belongs to the Metropolitan Museum of Art.

James Cowan, the maker, served his apprenticeship to Archibald Straiton, Edinburgh, beginning February

4, 1744. He was admitted freeman clockmaker to the Edinburgh Hammermen 1754. Then he went to Paris and studied under Julien le Roy and to London to study his craft still further, returning to Edinburgh 1760 and opening his business. His knowledge of the craft not only gave him a great and widely extended business connection, but brought him many apprentices.

One of these, and probably the most celebrated, was Thomas Reid, successor to his business in 1781, at the time of Cowan's death.

Andrew Leadbetter was apprenticed to Andrew Clark, Edinburgh, 1764. He settled later in Congleton, England, and made many good substantial clocks, some of which found their way to this country. One of them is shown in Figure 44, and is owned in Salem, Mass. The case is mahogany, the hands very handsomely pierced, and the clock in going order.

Another Scottish clock, made by William Robb, Montrose, who was working in 1776, is shown in Figure 45. It is a very handsome clock, the shape of the case being somewhat in the French style, with two urns and an eagle in brass as ornaments.

Owners of these ancient clocks are sometimes anxious to learn if they are by "good makers." Any clock, no matter who made it, which will go one hundred years is a good clock!

A very handsome specimen of Scottish work of the early nineteenth century is shown in Figure 46. The name on the brass plate in the arch of the dial is Alexander Mitchell, Corbals, Glasgow. He was in

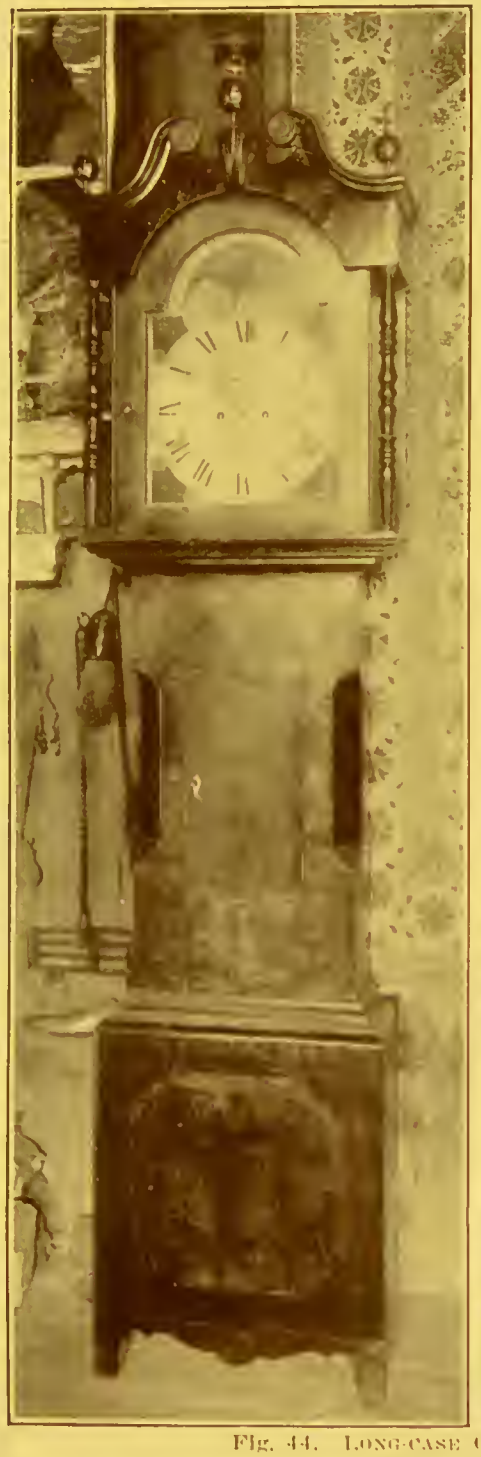


Fig. 44. Long-case Clock by Leadbetter
Owned in Salem, Mass.

Fig. 45. Long-case Clock by Robb
Scottish maker, 1776
Historical Society of Pennsylvania

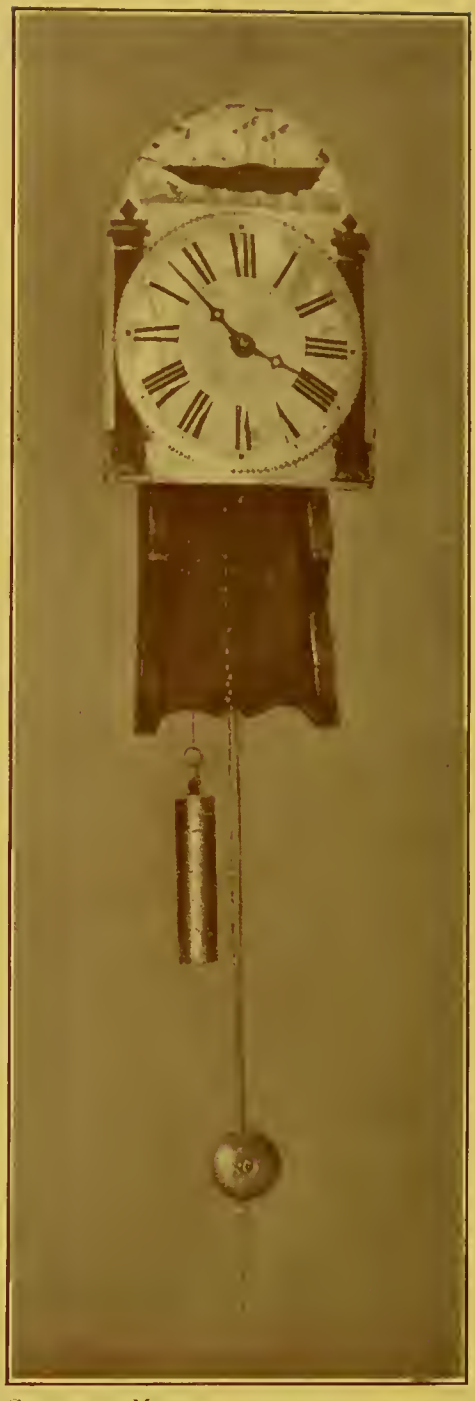


Fig. 46. Long-case Clock by Mitchell
Scottish maker
Miss Rosabelle Houston, Sturgis, Mich.

Fig. 47. Wag-on-the-Wall
Dutch clock owned in Salem, Mass.

business in Glasgow in 1822, and this clock was brought to this country by the present owner's grandfather in 1835. The case is of mahogany inlaid with satinwood and ebony, enriched by much carving and with handsome twisted pillars. The hood lifts off, and has glass let into the sides. The clock is in perfect going order and shows the days of the month. It is owned by Miss Rosabelle Houston, Sturgis, Michigan.

In many cases, particularly with country makers who sent their clocks to customers at a distance, it was expected that the joiner or cabinet-maker of the neighbourhood would make the case. Many Dutch works were sent to England without the cases, which were so bulky, and frequently the works were hung up without the owner going to the expense and trouble of having a case made.

Such clocks went till the dust and dirt clogged their wheels and they stopped. If the owner was a handy man he could clean and set them going once more. Such a clock, of Dutch origin, is shown in Figure 47. It is of simple design, with brass works, one-day time, and winds by pulling the weights. It is owned in Salem, Mass. Such clocks as these are often called in rustic communities by the quaint name of "wag-on-the-wall."

Many Dutch clocks of this type, but much more elaborate, found their way here. The works were boxed-in, the box and the bracket on which the clock stood being carved and gaily painted. In some localities these are called Friesland clocks, though they came from other parts of the Netherlands as well.

ON TIME

Fly, envious time, till thou run out thy race;
Call on the lazy, leaden-stepping hours,
Whose speed is but the heavy plummet's pace;
And glut thyself with what thy womb devours,
Which is no more than what is false and vain,
And merely mortal dross;
So little is our loss,
So little is thy gain!
For when as each thing bad thou hast intomb'd,
And last of all thy greedy self consum'd,
Then long Eternity shall greet our bliss
With an individual kiss;
And joy shall overtake us as a flood,
When everything that is sincerely good
And perfectly divine,
With Truth, and Peace, and Love, shall ever shine
About the supreme throne
Of Him to whose happy-making sight alone
When once our heavenly-guided soul shall climb;
Then, all this earthy grossness quit,
Attir'd with stars, we shall for ever sit,
Triumphing over Death, and Chance, and thee,
O Time!

JOHN MILTON

CURIOUS CLOCKS AND WATCHES

More than any other household possession, the clock, be it old or new, ticks itself into our affections. What other article of convenience would we tolerate in its vagaries as we do a clock? It gains or loses time, even stops completely, to suit its own fancy, or so it seems; and we put up with it, ease it along, excuse it to strangers, and miss it dreadfully when its tick-tock and familiar strike cease to sound through the house.

The making of curious clocks has been a hobby of all classes and conditions of men, from royalty down to the humblest craftsman. America is not behind the rest of the world in making freak clocks as well as those of immense size.

A writer in the *London Globe* writes of some of the world's oldest time-tellers, citing as quite the most curious, one in a little American backwoods town. The machinery, which is nothing but a face, hands, and lever, is connected with a geyser, which shoots out an immense column of hot water every thirty-eight seconds. This spouting never varies to the tenth of a second. Every time the water spouts up it strikes the lever, and moves the hands forward thirty-eight seconds.

In the very modern city of Chicago, the spirit of the old clockmakers lives in the person of Franz Bohacek, a native of Patzau, Bohemia. Twenty years of careful, patient labour have seen his efforts crowned by the completion of one of the most remarkable timepieces ever seen in America. In it the maker has combined the artistic spirit of the craftsman of the middle ages with the accuracy of the twentieth-century man of science.

Bohacek's clock, made up of more than one thousand parts, is two stories high. Its weights are so heavy that two windlasses must be employed to wind them up. It is a very elaborate affair altogether, and yet every part has a specific reason for being.

It has five dials. The first of these is that of the ordinary clock, merely for telling the time of day. The second is also for that purpose, only in place of twelve numbers there are twenty-four, somewhat in the style of the old one-hand Italian clocks. On the next dial the day of the week, the day of the month, and the month of the year are indicated by three series of numbers and three hands. The fourth dial, six feet in diameter, represents the solar system, with the sun in the centre and the various planets revolving about. These celestial bodies travel in exact accord with the real solar system itself.

The fifth and last dial marks time, in exact, or practically exact, harmony with the laws of astronomy. As every one knows, the year consists of 365 days 5 hours 48 minutes 46 seconds. Each month, thirteen in num-

ber, has therefore 28 days, and each day consists of 24 hours 4 minutes 54 seconds. On Bohacek's clock, a second, as measured by ordinary clocks, is 0.00341275 of a second longer. This is not precisely right, being in a day 85-100 of a second slow—a slight discrepancy, all things considered.

This clock has many other remarkable features besides those already mentioned. There are figures that represent various events in American history. There are figures for all the Presidents of the United States and one held in reserve. These figures appear at appropriate moments. There are other uncommon features, which lack of space will not permit to be chronicled here.

Among extraordinary clocks which have from time to time been invented, none is more curious than that made in 1767 by David Rittenhouse, of Philadelphia. It has six dials; on the main one there are four hands which indicate seconds, minutes, hours, and days, giving one day more to February in leap year. Phases of the moon are also shown. The second dial shows the movements of planets about the sun; the third, the moon revolving about the earth; the fourth, the movements of Saturn; the fifth, whether sun time is fast or slow with meridian time; while the sixth gives the combinations of chimes which sound quarter-hours, a choice of any one of ten tunes being played by pressing a knob on the dial.

In Switzerland clocks are now being made which do not require hands and faces. The timepiece merely

stands in the hall, and you press a button when by means of the phonographic internal arrangements it calls out, "Half past five" or "Five minutes to nine," as the case may be. A Munich professor has invented a remarkable sick-room clock. When a button is pressed an electric lamp behind the dial throws the shadow of the hours and hands magnified upon the ceiling so that invalids can see it from bed without craning their necks or putting themselves to any inconvenience. A German shoemaker spent fifteen years of his leisure moments in constructing a clock of the grandfather shape, nearly six feet high, made entirely of straw. The wheels, pointers, case, and every detail are exclusively of straw. The most remarkable fact is that it is reported to keep perfect time, though the durability of this strange piece of mechanism is a matter of doubt.

At the recent Franco-British Exhibition, a $5000 watch, made to the order of an American millionaire by a London firm of watchmakers, attracted considerable attention. The high price was not due to any embellishment of precious stones, but to its marvellous workmanship. The watch was keyless, with dials at the front and back; struck the hours and quarters like a clock, repeated the hours and minutes at will, showed Greenwich mean time, equation of time, sunrise and sunset, the moon's rising and setting, phases and age of the moon, the tides, days of the week and of the month and constellations. High and low water were indicated on a dial which turned once in 24 hours 50 minutes 28

seconds. Another dial, turning once in 24 hours, was divided into 29 1-2 equal parts, the lunar days. A large astronomical dial indicated the signs of the zodiac, constellations, and the sun's declination north and south.

In Worsley, Lancashire, are two clocks which never strike one, being arranged to strike thirteen at 1 A.M. and 1 P.M. One of them is over the Earl of Ellesmere's newly constructed entrance to Worsley Hall, and is the original which the Duke of Bridgewater had placed in the tower in his Worsley depot. It is said that his grace had the clock made to strike the "unlucky" number so as to warn his workmen that it was time to return to work after dinner, some of them having excused themselves for being late on the ground that they could not hear it strike one.

This recalls the incident when the big clock of the houses of Parliament saved a man's life. A soldier in the reign of William and Mary was condemned by court martial for falling asleep while on duty on the terrace at Windsor. He stoutly denied the charge, and solemn declared that he heard Old Tom (the predecessor to Big Ben) strike thirteen instead of twelve. The officers laughed at the idea, but while the man was lying in prison awaiting execution several persons came forward and swore that the clock actually did strike thirteen, whereupon the soldier was pardoned and released.

In the eighteenth century an ingenious jeweller named James Cox, of Shoe Lane, London, constructed a clock which was rendered perpetual by a cleverly

contrived attachment which utilised the rise and fall of the barometer to supply the necessary energy.

The movement of the mercury actuated a cog-wheel in such a manner that whether the mercury rose or fell the wheel always revolved in the same direction and kept the weights that supplied the movement of the clock always wound up. The barometer bulb dipped into a mercury cistern. The cistern hung attached to the extremity of two rockers, to the left end of one and the right end of the other.

The bulb was similarly attached to the other extremities of the rockers, which were thus moved every time there was a change in the amount of mercury in bulb and cistern respectively. The rockers actuated a vertical ratchet, and the teeth were so arranged that the wheel they controlled could only move in one direction, whether the ratchet ascended or descended.

The clock itself was an ordinary one, but of very strong and superior workmanship, and was jewelled with diamonds at every bearing, the whole being enclosed in a glass case which, while it excluded dust, displayed the entire mechanism. The fate of Cox's clock was brought to light in a work called "Travels in China," published in 1804 and written by John Barrow.

In this book it is stated that in the list of presents carried by "the late Dutch ambassador" were "two grand pieces of machinery that were part of the curious museum of Cox." One of these apparently was this perpetual clock, and it was taken by the Dutch embassy to China, where in the journey from Canton

to Pekin both the instruments suffered some slight damage. Efforts were made to repair them at Pekin, but on leaving the capital it was discovered that the Chinese prime minister, Ho-tchang-tong, had substituted two other clocks of very inferior workmanship and had reserved Cox's mechanism for himself.

In 1904 an interesting and novel clock was completed by Charles D. Davis of Chicago. Geographical clocks, or clocks which indicate the time in every part of the world, are by no means new, but Mr. Davis's invention is said to possess many novel features.

The dial is totally unlike that of the ordinary time recorder, in that it contains 360 marks where the minute marks are usually placed, these marks representing the 360 degrees on the earth's surface. On the outer circle of the dial, where the twelve hour representations are usually placed, are twenty-four figures representing the full day. The minutes are denoted by marks on the outer circle, but two dots are required for five minutes, because there are twice as many characters on the face as on the ordinary clock.

The dial is divided in the centre, from the six mark to the opposite six mark. The twelve hours of the day are distinguished by light spaces and the twelve remaining hours by dark spaces. The hour hand is stationary at the point which is made the central time, while the minute hand revolves as on the ordinary clock. To determine the time it is only necessary to locate the city or country on the red dial and read the time in relation to it as on an ordinary clock.

The famous clock at Hampton Court, London,

known as the "Clock of Death," was, in 1910, cleaned, repaired, and repainted. It is nearly thirty years since a similar work was undertaken. The old clock, which was the first astronomical clock in England and was made for King Henry VIII in 1540, has a curious history. In 1880 it was brought out of a shed at the palace where it had lain neglected for nearly half a century, and by order of the then secretary of the office of works it was erected in the courtyard opposite the entrance to the state apartments.

According to Ernest Law, the historian of Hampton Court Palace, the clock was invented by Nicholas Cratzer, a famous German astronomer, who came over to England by the invitation of Cardinal Wolsey and who was introduced by him to Henry VIII. By the clock it is possible to ascertain the hour, the month, the day of the month, the position of the sun and the number of days since the beginning of the year, phases of the moon and its age, the hour at which it crosses the meridian, and the time of high water at London Bridge. The winding of the clock occupies half an hour every week. The weights descend to a depth of over sixty feet. Like many other things about the palace, there are legends about the clock. It is related that when Anne of Denmark, queen of James I., died at Hampton Court, the clock, which was striking four at the moment, immediately stopped. It is also alleged to have done so ever since whenever any one long resident in the palace died within its precincts.

A wonderful clock was recently built in London. Standing twelve feet high, it is an exact reproduction

of the great seventy-foot clock tower in the Square of St. Mark, Venice. The four stories of the tower in the model, as in the original, are constructed of solid white marble, with panels of coloured Carrara marble and mosaic of gold and lapis-lazuli.

Above the archway which forms the bottom story of the tower are dials indicating the hours, months, and phases of the moon. The central dial is of black enamel, spangled with golden stars, and represents the heavens. Inset in this is a globe, half black, half gilt, representing the moon, and arranged to make a complete revolution in 29 1-2 days. Round this dial a golden sun revolves. Turning with the sun, but at a different speed, is a circle marked with the signs of the zodiac, and outside this is another circle marked with the hours of the day.

The centre of the third story is occupied by an alcove containing a gilt figure of the Virgin and Child, and flanked by two golden doors. Four times a day, at three, six, nine, and twelve o'clock, the three kings—Melchior, Caspar, and Balthasar—preceded by an angel with a golden trumpet, issue from one door and cross to the other, bowing and saluting as they pass before the Madonna. On the next tier stands a heavily gilt bronze figure of the winged lion of St. Mark. Surmounting the tower are two bells, one within the other, on which two bronze giants strike the quarters. The clock weighs 1 ton 5 hundredweight, and cost nearly $10,000.

It is only recently that another legendary idol has been shattered. It has been accepted as one of the

proofs of Napoleon Bonaparte's extraordinary mental power that he could go to sleep at any moment and wake up at any set hour. Now it has been discovered that he depended for waking on an alarm clock. Among the effects of Princess Mathilde, his niece, who died a few years ago, was found a timepiece made by the celebrated clockmaker of the first empire period, Abraham Bréguet, which, there is evidence to show, the "little corporal" carried with him on his campaigns. The case is of gilded bronze, handsomely engraved. There are eight dials, indicating the true time, mean time, phases of the moon, seconds, minutes, hours, day, month, and year. It strikes hours and quarters. Attached is a small metallic thermometer.

After his victory over Charles II., Oliver Cromwell wrote exultantly to England's Parliament telling how the enemy was beaten from hedge to hedge till he was finally driven to Worcester. There were 7,000 prisoners among the spoils of that fight. The royal carriage in which the king had been carried was there, too, and in that handsome carriage was a royal carriage watch, which also fell into the hands of the victorious Cromwell.

After all these years, and through many and varying vicissitudes of fortune, this royal watch has finally found its way to Philadelphia, remaining still in the possession of a loyal subject of the King of England, George V., who is living in the Quaker City. This timepiece of royalty, which still ticks after a career of two hundred and seventy years, was made in 1640 for King Charles I. by the royal watchmaker of that

time. King Charles I. was beheaded two years before his son Charles II. was defeated on and escaped from the field of Worcester.

It is of the oldest watchmaking pattern, being made entirely by hand, and costing in its day a good round sum of money. The case is of solid silver, ornamented in beautiful pierced filigree work, and there is an outer case of copper with a handsome leather cover, silver studded. The royal watch runs thirty-six hours with one winding. Only one hand is used in designating the time. There is a silver bell enclosed within the silver case, on which the hours are struck. There is also an alarm attachment. The watch is four and one-half inches in diameter, and one and a half inches thick. Cromwell kept it as a personal possession for years. But after the restoration it fell into the hands of Joseph Kipling, Esq., of Overstone House, North Hants, England, an ancestor of Rudyard Kipling. Joseph Kipling was also an ancestor of Wilfred Powell, British Consul at the port of Philadelphia, the present owner of the watch.

The watch which Paul Revere carried on his midnight ride 128 years ago is still a serviceable timepiece, and is owned by a well-known Malden, Mass., man, Frederick Lincoln Crane, who resides at No. 40 Alpine St., Kernwood Hill, in that city of greater Boston. This relic, pronounced by expert antiquarians to be undoubtedly what it is claimed, fell into Mr. Crane's hands something more than a year ago by a very interesting chain of circumstances.

Paul Revere left this watch by will to his son, Joseph

Revere, who in turn passed it down to Colonel Frederick W. Lincoln, of Canton, his nephew and the grandson of the revolutionary scout. This Colonel Lincoln was for many years the head of the Revere Copper Company's works in Canton, the industry, it will be remembered, with which Paul Revere was so long connected.

Frederick W. Lincoln, afterward mayor of Boston, was adopted by Colonel Lincoln, and because of this, as well as because he was the patriot Paul's great-grandson, he would have been the natural heir to the watch. Just here, however, an interesting bit of romance came in to divert the relic to the present owner.

Colonel Lincoln had in Dr. Phineas Miller Crane, late of East Boston, the father of Mr. Crane, of Malden, a friend as dear to him as Damon was to Pythias. Dr. Crane was the son of Major General Elijah H. Crane, who commanded the troops in New England during the War of 1812, and was also in his time high sheriff of the county and grand master of the Grand Lodge of Massachusetts Free and Accepted Masons. Dr. Crane was often at his friend's home in Canton, and there one day he met the young woman with whom he fell in love and whom he resolved to marry. He had then just graduated from Harvard College and the Harvard Medical School, but soon he established a practice, and in 1833 he persuaded Susan Dwight to share his home and fortune. Often Dr. Crane had admired the Paul Revere watch, and in his love for the timepiece his bride heartily shared. This

fact he let drop to Colonel Lincoln one day in the course of conversation, proposing, half in jest, that he sell him the watch to give his fiancée the day she became his wife.

Naturally Colonel Lincoln was averse to letting the watch go to one not of the Revere blood, but his friend's request seemed to offer to him an admirable opportunity to set the seal on a friendship which had meant much to them both as well as to Miss Dwight. So he consented to part with the watch, and it became the property, the day she became Mrs. Crane, of the woman both men wished to please.

From that time, 1833, till she passed away, Mrs. Crane cherished this relic with tenderest care. All the Revere family and traditions were known to her, Paul's daughter being long one of her friends, and she fully appreciated the great honour in making her the custodian of the relic. On the slender chain, like a woman's neck-chain, which came with the watch, her husband had her initials engraved, and these are still distinguishable. Rather curiously those little letters, "S. H. C.," are to-day the only marks on the handsome relic. There is not even a maker's name.

Old cannon have been used for many purposes besides those for which they were originally intended, but it remained for the State of Maine to apply one to the most peaceful of pursuits.

The most unique clock-weight in Maine, or anywhere, for that matter, is that of the Baptist Church at Cherryfield, an old smooth-bore cannon. The old cannon has an interesting history. It was one of the

old smooth-bore type and was brought by Gleason R. Campbell from Boston on one of the return trips of lumber vessels of A. Campbell & Co. It was brought to fire salutes, as the stirring days of the Civil War were at hand. After announcing many Union victories during the war, at the surrender of Lee, in 1865, it was taken out for a final and great salute. Robert L. Wiley, a soldier of the war, who was at home on furlough, was in charge of the cannon, and through some mismanagement a premature discharge of the gun threw Mr. Wiley high in the air, filled his face with powder, and tore one arm off close to the shoulder. The old gun was then spiked by the angry citizens and did no more salute service. For some years it lay imbedded in the dirt near G. R. Campbell's store, and when the Second Baptist Church building was built, in 1873, a weight being wanted for the clock, the old gun was used. For thirty years it did clock duty, until 1903, when it once more received a baptism of fire and fell in the ruins of the church conflagration that December. When the new clock was installed in the new church building, in 1906, the old cannon once more mounted the tower to do clock duty. Some feel as if the old gun were a hoodoo, but without doubt it will spend many years in its present quiet duty.

In most unexpected places you may look for clocks, but generally you anticipate finding them rather up in the air. One of the most novel clocks in the world is the sidewalk clock at the corner of Broadway and Maiden Lane, New York. Its works are under the pavement. Only the hour and minute hands, pro-

Fig. 48. "The Spirit of the Staircase"
Dalton House, Newburyport, Mass.

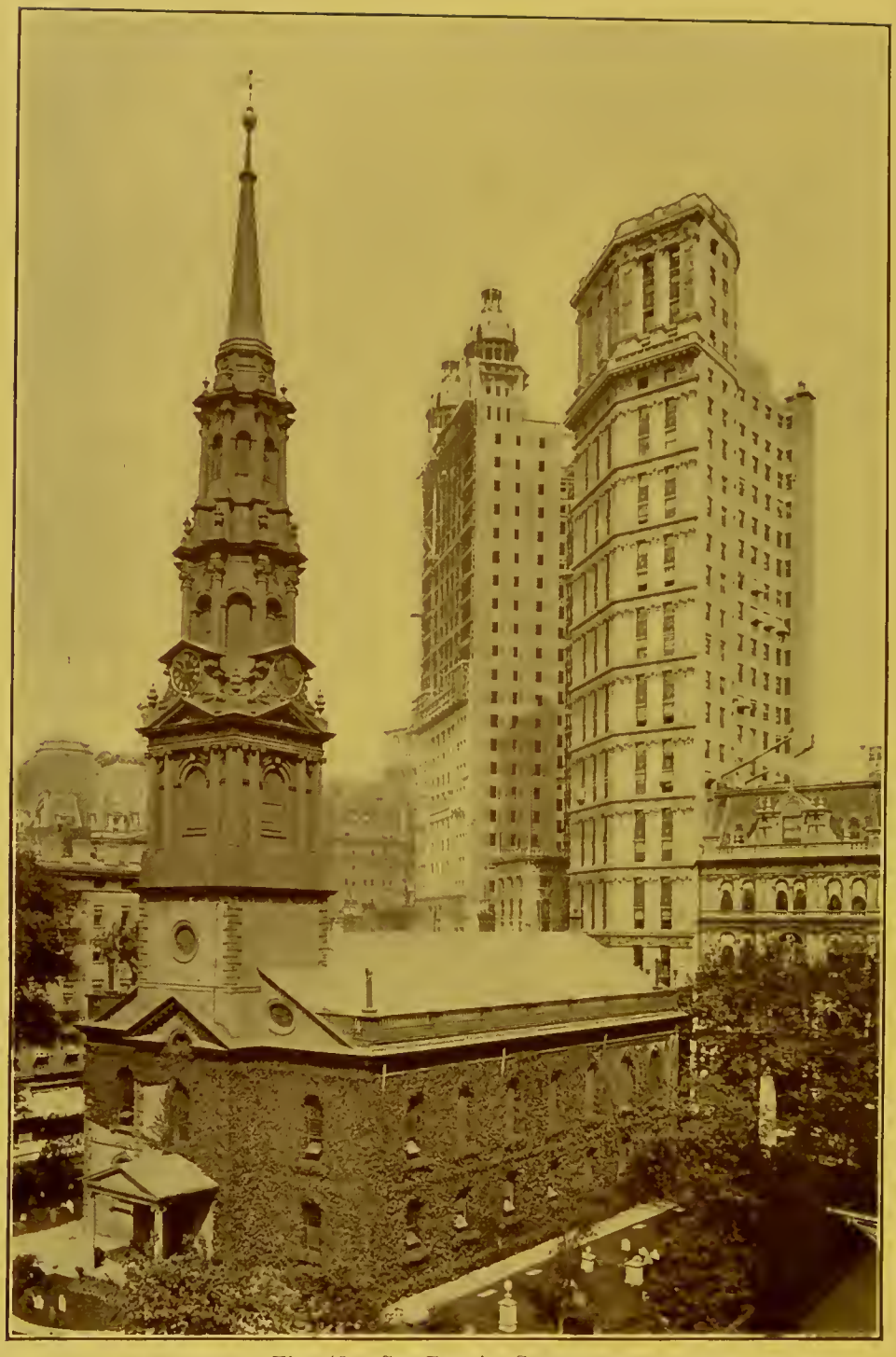


Fig. 49. St. Paul's Chapel
Oldest church clock in New York City
Made by Thwaites, London, 1798

tected by a heavy glass cover, are visible from an opening in the sidewalk.

Another lowly one, and one which has the reputation of being the best timekeeper in the world, is the electric clock in the basement of the Berlin Observatory, built in 1865. It is enclosed in an air-tight glass cylinder, and for periods of two and three months it has frequently run with an average daily deviation of only fifteen one-thousandths of a second.

Another remarkable clock is that made by Villingen, the clockmaker of the Black Forest, Germany. It shows the seasons, years, and leap-years to the last second of the year 99,999, besides a host of other astronomical, geographical, and historical facts.

The oldest church clock in New York City is that in the tower of St. Paul's Chapel. (See Figure 49.) It was built by John Thwaites of London in 1798 and is so marked. The largest clock in the world is also in New York, and dearly we love, as a nation, to name its dimensions. For many years it was London's boast that they led the world for size and grandeur of tower clocks, and cited as a wonder the great Westminster clock, on the Houses of Parliament.

This clock was built in 1854, set in the tower in 1859, and set going in 1860. It was designed by Lord Grimthorpe, and built by E. J. Dent. Its four dials are 180 feet above the ground and are each 22 feet 6 inches in diameter. They are formed of cast-iron framework giving the divisions and the figures, the spaces being filled in with opalescent glass. The hour figures are 2 feet long and the minute spaces 1 foot

square. The hour hands are solid and cast of gun-metal. The minute hands are of copper, tubular in shape to make them light, and braced at intervals. They are 11 feet long from the centre to the point, and have a counterpoise of 3 feet. The dials are illuminated by gas-jets, and the distance at which they can be seen at night is not great.

The Largest Clock in the World

Several times has the size of this clock been exceeded in America, both in the East and West. The largest one of all (Figure 50), which has been recently set up in New York City in the tower of the Metropolitan Life Building, excels not only on account of its great size, but because it is extremely beautiful both by day and night.

We are said to be living in the "Age of Concrete," but the last thing for which this material would seem appropriate, would be clock-dials, yet the Metropolitan dials, 26 feet 6 inches in diameter, are built of reinforced concrete faced with vitreous blue and white mosaic tile. The figures on the four dials are 4 feet high, and the minute marks 10 inches in diameter. The minute hands are 17 feet from end to end, 12 feet from the centre to tip, and weigh 1000 pounds. The hour hands measure 13 feet 4 inches from end to end, 8 feet 4 inches from centre to point, and weigh 700 pounds. The hands are built on iron frames sheathed with copper, and revolve on roller-bearings.

The driving power of this huge mechanism is electricity, none of the many devices connected therewith

Fig. 50. Metropolitan Life Building Clock, N. Y.
Largest clock in the world

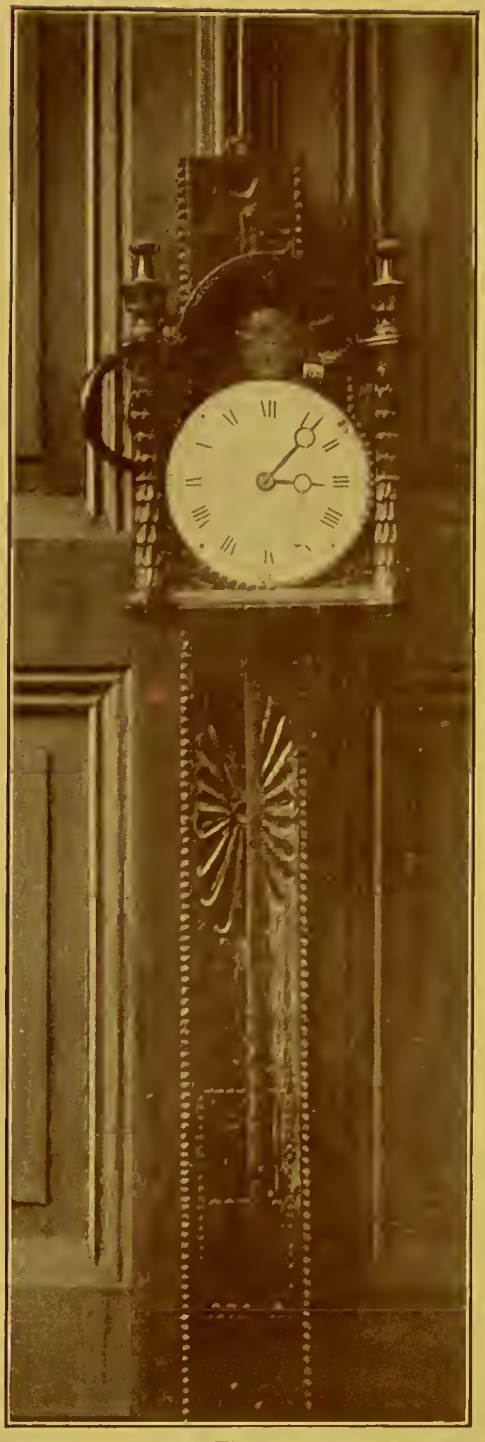


Fig. 51. Clock from Bensberg, Prussia
Said to be work of a monk

Fig. 52. Clock in Guilford, N. Y.
Said to date from 1680, still going

requiring any manual operation, the entire installation being automatic. The master clock, located in the Directors' Room on the second floor, not only controls the entire tower clock outfit, but about 100 other clocks throughout the building, as well as several program instruments for sounding various schedules of bells in the different departments.

Through the medium of a special transmitter, minute impulses are sent to the tower clock mechanisms on the twenty-sixth floor, keeping them in exact synchronism with the master clock; and at each quarter-hour electrical impulses are transmitted to the electric hammers on the forty-sixth story, and simultaneously are heard the notes of the old historic Cambridge chimes, composed by Handel. Following the fourth or last quarter, the hours are sounded on the 7,000-pound bell, with an impact of about 200 pounds. This blow, struck on such a large bell, may be heard many miles away.

As evening draws near, at any hour for which the mechanism is adjusted hundreds of electric lights appear back of the numerals, the minute marks and the entire length of the hands, which makes a brilliant and beautiful effect. Simultaneously with the illumination of the dials, an automatically actuated switch lights up a great electric octagonal lantern, eight feet in diameter, located at the top of the tower, from which powerful electric flashlights, marking the hours in the evening, may be seen for a great distance, far beyond any possible transmission of sound, the time being signalled therefrom as follows:

Each of the quarter-hours is flashed in red and the hours in white light; one red flash for the quarter, two red flashes for the half, three red flashes for three-quarters, and four red flashes for the even hour—these latter flashes followed by a number of white flashes marking the hour. The clock was made by The Self Winding Clock Co. of Brooklyn, New York.

Aside from the fact that this clock is remarkable on account of its size, that it is installed in a building with a floor space of 25 acres, and in a tower 700 feet tall and containing 50 stories, its chief charm is its beauty. By day, in its tall white tower, it seems to hang in the sky. At night its flashing messages of the flight of time can be seen far out at sea, and the clear notes of its chimes seem to drop from on high if you stand near at hand and gaze up at its face. All day long it has groups of admiring watchers, for its situation opposite Madison Square Park is peculiarly felicitous.

An Italian, Sirio Tiburzi of Fabriano, Italy, has tried his hand at a clock made solely of wickerwork and poplar twigs. The dial, cord, and weights are of wickerwork, the remaining parts are of both wickerwork and poplar twigs. The mechanism is similar to that of a tower clock, with the exception of the striking parts, with which it is not equipped. It stands eight feet high and will run twenty-seven hours with one winding.

A Bohemian, Joseph Bayer, a glass-cutter by trade, resident in the country of his birth, has employed glass as a medium for building a clock. With the exception of the spring every portion is of crystal glass. The

three hands, hour, minute, and second, as well as the apparatus for striking, are all of glass. The clock is sixteen inches high.

Wells Cathedral contains the most interesting and the oldest self-striking clock in the whole world. It was constructed by Peter Lightfoot, a monk, in 1320, and embraces many devices which testify to the ancient horologist's ingenuity. Several celestial and terrestrial bodies are incorporated in interesting movement and relationship. They indicate the hours of the day, the age of the moon, and the position of the planets and the tides. When the clock strikes the hour, horsemen, fully armed, dash out of two gateways in opposite directions and charge vigorously. As they pass they strike with their lances as many times as correspond with the number of the hour. A little distance away, seated upon a high perch, is a quaint figure, which kicks the quarters on two bells placed beneath his feet and strikes the hours on a bell. The dial of the clock is divided into twenty-four hours and shows the phases of the moon and a map of the heavens.

The Czar is the proud possessor of a unique clock, which records not merely the passing seconds, minutes, and hours, but the days, weeks, months, and years. The clock was invented and manufactured by two peasants, who presented it to the Emperor as a token of their loyalty.

Clocks have been chosen as princely gifts from the time of their earliest invention, and many and curious kinds have passed from one nation to another. In 1635, when the second daughter of Charles I. was

born, the Dutch presented their majesties with these valuable treasures: "A massive piece of Amber-gris, two huge basins of China-earth, a noble clock, the manufacture of Rudolphus the Emperor, and four rare tables of painture."

Among the many odd or rich clocks which Wood mentions in his "Curiosities of Clocks and Watches" as having been used as gifts are these: "Strype, in his 'Life of Sir John Cheke,' Secretary of State in the time of Edward VI., who died in 1557, mentions that among other presents bestowed on him by the King was his own clock, which after his death came into the possession of Dr. Edwin Sandys, who being Bishop of Worcester in the beginning of Queen Elizabeth's reign, about the year 1563, made a New Year's Gift of this old clock to Cecyl the Secretary, which he said he was sure he would the rather accept, because it was his old master's of happy memory, King Edward, and after his loving and kind brother's."

New Year's day was always a great occasion for the exchanging of gifts, and royalty took toll from all their "fonde and lovying subjects." On January 1, 1556, among other gifts presented to Queen Mary is the following: "By Nicholas Ursin, a faire cloke, in a case, couer with blake vellat." Among clocks belonging to Queen Elizabeth was one which consisted of "an Ethiop riding upon a rhinoceros, with four attendants, who all make their obeisance when it strikes the hour; these are all put into motion by winding up the machine."

Yet many and strange are the indignities which have

been played upon clocks even more than watches, and yet when going how alive a clock appears.

Half way up the stairs it stands,
And points and beckons with its hands
From its case of massive oak,
Like a monk who, under his cloak,
Crosses himself, and sighs, alas!
With sorrowful voice to all who pass,—
For ever—never!
Never—for ever!

By day its voice is low and light;
But in the silent dead of night,
Distinct as a passing footstep's fall,
It echoes along the vacant hall,
Along the ceiling, along the floor,
And seems to say, at each chamber door—
For ever—never;
Never—for ever!

I get many letters about old clocks which have been rescued from some undignified position, or which are being restored to their former condition. A lady from Durham, North Carolina, writes that she has in her home a fine long-case Seth Thomas clock, but that the case has been painted yellow and grained. A doctor in Trenton, Iowa, writes me of his "spirit of the staircase":

"My old hall clock is eight feet high with a rather misty history. I bought it of a man who bought it of a man who brought it from Ohio thirty-five years ago. He in his turn had bought it at a sale, from a Swiss for fifty cents! An old Swiss clock mender told him the works had been made not short of one hundred years ago (they are brass, hand made). The case is of cherry, of a beautiful old red colour, only produced by age. The face is a half moon at the top, painted with pillars, wreathed with roses at the sides,

and at the top a large posy of one rose, red or rather pink, a yellow tulip, violets, forget-me-nots beautifully painted. The weights are shaped like combs in iron and are filled with something that resembles lead ore. They weigh 37 lbs., together. There is no glass over the face and the hood is made to slip off when the clock was wound, which must have been a task for the master, as it must weigh twenty-five pounds, being one inch cherry, dovetailed at the corners. The top has the broken arch with brass rosettes and an urn in the centre, and one at each corner. The brasses are all beautiful, and hand-made of course. The clock keeps perfect time and runs seven days with one winding. The key is iron and looks like the crank of a coffee mill. The weights are hung with catgut.

"The clock is in excellent preservation, but the wife of the former owner would only allow it in the kitchen and as it stood higher than the ceiling a hole was cut and the 'bonnet' top thrust up in the attic. As a consequence, when cleaning house, it was pulled out and the top broken off. Instead of mending it, the broken arch was thrown in the fire, and the husband, who really seemed to admire it, made a new one, like the old, replacing the original rosettes and urns. That is the only alteration on it, although it had a very narrow escape, the housewife informing me she intended 'fixing it up decent' by giving it a coat of asphalt stain and varnish. It would have been sacrilege, for the colour is as rich as mahogany."

Lately two little old ladies, sisters, whose lives had travelled in paths divided by continents, were chatting

over youthful days and pranks, and the one they laughed over most heartily was when they moved the clock. The home during summer was in West Swazy, in a great old house which had been in the family over a century. Late in the afternoon the two sisters, coming upstairs, glanced at the familiar face of the old clock, and one said to the other, "Just let us move that clock; it must be tired standing there so long." It was not an easy task, for the case was hooked to the wall, but they managed to do it, and pulled and pushed it into a nearby room. The cook had been in the family as long as they could remember, so they thought they'd try the effect on her. One of them called down the back stairway, "Oh Mandy, will you just go out and see what time it is and tell me?"

The old woman went into the hall, looked up, and found the clock gone from its accustomed place. She turned white with terror, and grasping her head with both hands, said, "Oh my Gawd," and fled to the kitchen, from which no persuasion could draw her. The nurse-girl was sent on the same errand, and muttering "Ghostses," she too fled.

The tellers of this prank looked too frail to have ever moved anything more weighty than the knitting-needles which occupied their fingers while they talked.

From Bensberg, Rhineland, a photograph (Figure 51) and letter found its way to me:

"In the year 1133 the ancient castle 'Berg on Dhun' was taken possession of by the church, became a monastery, and its name was changed to 'Altenberg.' It was the custom of the period, or perhaps of the place,

to cause the monkish inmates who had broken the rules of the order, or committed a crime, to remain imprisoned till they had made some work of art. In later years the monastery was no longer used as such, and fell into partial ruin. Recently a portion of it has been made over into a dwelling which represents but a portion of its ancient size and grandeur, and among the rubbish which was to be cleared away was found this clock. The dial was broken, and has been replaced by one of a period of about a hundred years ago. It is supposed that the clock was made by an imprisoned monk.

"The works are encased in a large box of lead, which has been hammered into proper shape to fit them. Every detail of case and works is made by hand, and evidently with the rudest tools which were known in the middle ages. The clock moves on a cogged rod, sliding down it, and requiring to be pushed up every twenty-four hours. The oak wood carving is something extraordinary, the style is one of its own, the execution A1.

"The clock may be hung high if so desired, and actually must be placed at least four feet from the floor."

No details are given as to the style of clock, but the line which appears as a crack on the dial is a pendulum, which is hung on a knob on the right-hand side of the case above the dial. The weight which drives the movement is the clock itself evidently, a variation apparently on a style of clock made a century or more ago by the Japanese.

Fig. 53. Clock by Dubuc
A French clockmaker who appealed to American market
Metropolitan Museum of Art, N. Y.

Fig. 54. Collection of Clocks
By foreign makers, now dispersed

An odd placing of a long-case clock may be found in an old house in Sharon, Conn., which has recently been purchased for a summer home by some city dwellers. The clock is fairly built into the walls, the face showing in the wall in one room while the case is in the hall.

In Guilford, N. Y., is a clock which, its owner says, is the oldest one in the United States which keeps good time. It is shown in Figure 52. It belongs to Mr. David Dorman, who says: "It was made about 1680, it is brass and has a pendulum three and a half feet long. The face is engraved brass, seven and a half inches across, one day time, and the smaller lead is the original one. The only repairs which the clock has had during the lives of the last three owners, which cover the years from 1835, is a new weight in place of a pail of stones."

There are other going clocks in America as old as this, but perhaps 1680 is a somewhat early date for this, as the anchor escapement did not come into use till 1680, when William Clement, a London clock-maker, began to apply it. At any rate the old clock is a splendid veteran, still on the firing line.

The English artisan did not fail to cater to the taste of the Colonies for patriotic articles of many kinds, and portraits of our heroes and reproductions of our buildings, many of which were built for use and not for beauty, are seen on the china which was sent over here on every ship.

Clocks also were embellished with various portraits and figures, and some of the choicest were the pro-

duction of French makers, showing how valuable a market the new republic was considered. A small number of very choice French gilt clocks made by Dubuc, Paris, were sent to this country in 1805. They were consigned to John Shaw, a merchant of Annapolis, Maryland, and sold by him. One is shown in Figure 53, with the figure of Washington, and the motto on drapery below the dial, "First in War, First in Peace, First in the Hearts of his Countrymen." These clocks occasionally turn up in the auction-room, where they fetch good prices. The one shown belongs to the Metropolitan Museum of Art, New York.

Figure 54 shows a rare collection of clocks, chiefly French, which has been dispersed by auction. The one at the top, right-hand side, is a duplicate of the one given in Figure 53, with figure of Washington. Made by Dubuc. The one below that is a choice Sèvres porcelain clock, maker unknown. The clock on the lowboy is by William Blakely, Paris. It belonged to Governor Richardson of South Carolina, and is an exact duplicate of the one at Mount Vernon, owned by George Washington.

The tall-case clock in the centre is a Dutch clock, maker unknown. The mantel clock at the top, left-hand side, has a bust of Washington after Houdon. The works were by Malet, Paris. Below the dial is a very aggressive spread eagle. The clock directly below, with octagonal face, is by Ledure, the movement by Hemon, Paris. The clock on the left lowboy is by Dubuc, the maker of those already shown with Washington figure.

Fig. 55. Swiss Clock
One of three brought to America
Owned in Salem, Mass.

An odd clock of Swiss manufacture is shown in Figure 55. The clock is in the church tower, the works at the back of the picture. The movement of the pendulum can be seen in the circular opening in the bridge. This clock is one of three which were brought to America many years ago, and it still keeps perfect time. It is owned in Salem, Mass., where so many antiques have found a resting-place.

THE MONITOR

Ol' clock a-standin' on de mantel shelf;
Nuffin' much to do excep' a-talkin' to hisself;
Tellin' 'bout de seconds an' de minutes an' de hours,
Countin' off de days between de snowstorm an' de flowers;
Jes' a sing-song story, for de mos' he has to say
Is, "Yesterday was jes' about de same thing as today";
An' de days dat's still a-comin' you is gwineter find at last,
Is purty much de same as you was used to in de past.
So, what's de good o' waitin' if you sees a chance to smile,
A-thinkin' dat de laughter may be better after a while?
An' what's de good o' sighin' foh de hopes of long ago,
When de present has its prospects, same as what de past could show?
Say, chillun, is you strivin' on an' smilin' in de Now,
Or is you jes' complainin' 'bout de whyfore an' de How,
An' fixin' up a future dat'll find you on de shelf,
Wif nuthin' much to do excep' a-talkin' to yourself?

Washington Star.

AMERICAN CLOCKS

I love to contemplate an old clock. One of those relics of bygone times that come down to us wrapped in veneration, telling their tale of simple yet touching interest. How erect and prim it stands in the corner, like some faded specimen of maiden antiquity. Its face bears marks of beauty—of beauty decayed but not obliterated. It is plain that it has seen its best days, but it is equally evident that it was the pride and ornament of its day.

Years have gone by since the aged monitor of time first started on its course, and now they who started out with it in the morning of life, where are they, aye, where are they? But the old clock ticks blithely and patiently as ever. The voices and footsteps are silent of those who journeyed up with it to a good old age. A new race succeeds and stands before it, and as they watch its progress their hours are also passing. Mark then the impressive lesson from the old clock.

JOHN F. WATSON.

Philadelphia, 1830.

AMERICAN CLOCKS AND CLOCKMAKERS

The complete story of American clockmaking is still to be told. In no branch of industry does one more deeply regret the absence of those great guilds or companies which were formed so early in England, than in studying the remarkable history of clockmaking in this country.

In the English guilds the names of the members of the several trades were set down, the dates when they entered, and generally their addresses. This simplifies exceedingly the listing of the names of the makers. Those who were not members of the London guild of clockmakers frequently put on the name of the town where they worked in addition to their own name, and the style of the case, the material, and character of the works gives an idea of the period of manufacture.

The putting on of the maker's name is not unusual among American clockmakers, and we had in addition a fashion of putting inside the case a paper with maker's name, address, and directions for keeping the clock in running order. But these papers did not come into vogue till after 1800 or a little later, for their use is almost wholly confined to mantel and wall clocks. I have never found one in a long-case clock of American make.

Clockmakers and gold- and silversmiths—the two

businesses were often worked together—came to this country early in the seventeenth century, from England and Holland, just as artisans of other trades came. They brought with them their tools, and were abreast with their contemporaries in their methods of manufacture, though this is seldom allowed them. The names of these early makers are very hard to find. The clocks they made have generally disappeared, and the only way to gain any trace of them is a patient and unending search through town records, newspapers and sometimes in genealogical works.

In 1683 William Davis and his family arrived at Boston, Mass. He was a clockmaker and understocked with money but overstocked with family. But he was able to induce David Edwards to become surety for him and his family that they would not become charges upon the town. In 1698 Everardus Bogardus was at work at clockmaking in New York City. These are the two first that I have found.

Among some of the early clockmakers was James Batterson. He advertised in October, 1707, that "James Batterson lately arrived from London" had opened a store in Boston for the sale of watches and clocks. As in England, so here, and we find that many of the earliest clocks were for churches and steeples, When the New Meeting House was to be built on the green at Ipswich, Mass., in 1699, it had a turret for the bell. In 1704 provision was made for a clock with a dial. A Meeting House was built in New Haven in 1727. By 1740 it was deemed in need of a new bell and a clock. This latter had brass works

and was built by Ebenezer Parmilee. The town, not to be done out of its money without due value received, tried the clock for two years. It proved a good time-keeper and then they paid Mr. Parmilee. There was not so much money in New Haven at this time as there was some years later, or perhaps even then some of it was out on those ocean ventures which proved so profitable. At any rate two members of the congregation begged off from paying their share, the reason they gave for being declared exempt was, that they lived too far away from the clock for it to be of any use to them!

In 1825 the town employed Barzillai Davidson to make a new clock with wood works and set it up on the Meeting House at an expense of $260. He took over the old brass clock for $40. He was a regular Yankee at a bargain, for he repaired the good old brass clock, and—so the story goes—sold it and set it up in New York, receiving $600 as payment.

In 1735 a clock was purchased for the Third Parish Meeting House in Newbury, Mass. In 1754 the tower of this Meeting House was struck by lightning and was examined by Benjamin Franklin, who wrote to M. Dalibard of Paris in reference to it. The church in question stood in what is now known as Market Square, Newburyport. It must be remembered, also, that Franklin himself knew enough about clocks to make one, which was remarkable for the simplicity of its mechanism.

His communication to M. Dalibard reads as follows:

I thank you for communicating M. de Buffon's relation of the effect of lightning at Dijon, on the 7th of June last. In return, give me leave to relate an instance I lately saw of the same kind. Being in the town of Newbury, in New England, in November last, I was shown the effect of lightning on their church, which had been struck a few months before. The steeple was a square tower of wood, reaching seventy feet up from the ground to the place where the bell hung, over which rose a taper spire, of wood likewise, reaching seventy feet higher, to the vane of the weather-cock. Near the bell was fixed an iron hammer to strike the hours; and from the tail of the hammer a wire went down through a small gimlet-hole in the floor that the bell stood upon, and through a second floor in like manner; then horizontally under and near the plastered ceiling of that second floor, till it came near a plastered wall; then down by the side of that wall to a clock, which stood about twenty feet below the bell. The wire was not bigger than a common knitting needle. The spire was split all to pieces by the lightning, and the parts flung in all directions over the Square in which the church stood, so that nothing remained above the bell.

The lightning passed between the hammer and the clock in the above-mentioned wire, without hurting either of the floors, or having any effect upon them (except making the gimlet-holes, through which the wire passed, a little bigger), and without hurting the plastered wall, or any part of the building, so far as the aforesaid wire and the pendulum-wire of the clock extended; which latter wire was about the thickness of a goose-quill. From the end of the pendulum, down quite to the ground, the building was exceedingly rent and damaged, and some stones in the foundation-wall torn out and thrown to the distance of twenty or thirty feet. No part of the aforementioned long small wire, between the clock and the hammer, could be found, except about two inches that hung to the tail of the hammer, and about as much that was fastened to the clock; the rest being exploded, and its particles dissipated in smoke and air, as gunpowder is by common fire, and had left only a black smutty track on the plastering, three or four inches broad, darkest in the middle and fainter towards the edges, all along the ceiling, under which it passed, and down the wall. These were the effects and appearances on which I would only make the following remarks, viz.:—

1. That lightning, in its passage through a building, will leave wood to pass as far as it can in metal, and not enter the wood again till the conductor of metal ceases. And the same I have observed in other instances, as to walls of brick or stone.

2. The quantity of lightning that passed through this steeple must have been very great, by its effects on the lofty spire above the bell, and on the square tower, all below the end of the clock-pendulum.

3. Great as this quantity was, it was conducted by a small wire

and a clock-pendulum, without the least damage to the building so far as they extended.

4. The pendulum rod, being of a sufficient thickness, conducted the lightning without damage to itself; but the small wire was utterly destroyed.

5. Though the small wire was itself destroyed, yet it had conducted the lightning with safety to the building.

6. And from the whole it seems probable that, if even such a small wire had been extended from the spindle of the vane to the earth before the storm, no damage would have been done to the steeple by that stroke of lightning, though the wire itself had been destroyed.

B. FRANKLIN.

In 1785 the *Essex Journal* publishes the following notice: "Last week was placed in the steeple of the North Church of this town (Newburyport), a clock made by Simon Willard of Roxbury, Inventor of Patent Jacks, which for goodness and beauty of the workmanship and as a timekeeper is not exceeded by any which have been imported from Europe, notwithstanding its having been made at a lower cost."

In 1752 a lottery was organized in Philadelphia "to raise £1012 10s. being half the sum required to finish the steeple to Christ Church and to purchase a ring of bells and a clock."

In most homes simple contrivances like the noon mark, dials of one kind and another, and sand-glasses were commonly used except in the large centres. As late as 1762 the *Boston Gazette and Country Journal* has an advertisement of "one fourth, one half minute, one half hour and two hour glasses," while some conservative families used the hour-glass as late as 1812.

But those who wished them could buy watches and clocks. In 1712 Benjamin Bagnall made and sold in Boston eight-day clocks "in hard wood cases." A clock was donated to King's Chapel, Boston, in 1714.

by the "Gentlemen of the British Society." This was in the old building which was replaced by the present one in 1753, and may have been an imported clock.

There is a long-case clock in the Boston State House, which formerly belonged to the Rev. Mather Byles, first pastor of the Hollis Street Church, Boston. This clock was made by Gawen Brown, in 1750, in his shop on State Street for Mr. Byles, who was his father-in-law. It is a fine clock with square top, brass works, and is still in running order. There is also a letter from Brown to the members of the Old South Church, dated 1768, concerning the clock on that Meeting House which had been made by him, showing that he made turret as well as domestic clocks.

Odran Dupuy made clocks in Philadelphia in 1735. John Dupuy, presumably his son, was at work in the same city in 1770. In 1734 John Bell, New York, advertises "8 day clocks with Japan cases." John Ent of New York advertises in the *New York Mercury* for May 1, 1758, as follows:

"John Ent, clock and Watch-maker at the Sign of the Dial, has moved to the house of Mr. John Wright, watch-maker in Bayard street, where he continues to make and repair in the newest manner, All sorts of Clocks and Watches, Whether Repeating, Horizontal or the plain kind. Gentlemen and Ladies that are pleased to Honour him with their Employ may depend on the greatest Care and Dispatch imaginable."

On March 7, 1757, George Chester of New York calls attention to his wares in the *New York Mercury*. He says:

"George Chester, Watchmaker from London, begs leave to inform the Publick That he has just opened Shop at the Sign of the Dial on the New Dock next door to Mr. Vandyck's, hatter, where he will sell and repair all sorts of clocks and watches. Gentlemen and Ladies who are pleased to Honour him with their Employ, may depend on the greatest care imaginable, with the utmost dispatch and at the most reasonable rates now in London. Said Chester has a few second-hand watches to dispose of reasonable, and a very good eight day clock which will come cheap."

At about this period nearly all the clockmakers used the "Sign of the Dial" for the name of their shops. It must have been confusing, but they specify the name of the street and often the name of the person who owns the house or shop they occupy. Christian Syberberg was a watchmaker of note, and his advertisement in January, 1757, details his stock in trade:

"Christian Syberberg, Watchmaker, now living at the Sign of the Dial in the house of Mrs. Mary Kippen near the Old Slip Market, Repairs all sorts of Clocks and Watches with the utmost expedition. He has lately imported from London a parcel of very neat silver and pinchbeck watches, which he'll sell very reasonably for ready money and will warrant to be good. N. B. He has a choice assortment of silver and pinchbeck seals, steel and pinchbeck chains, keys and leather strings, etc., and gives good attendance to his customers."

His shop must have been attractive to his customers and to others as well, for it caught the attention of

burglars, for on January 10, 1757, Syberberg is forced to advertise again:

"Whereas about six of the clock in the night of Friday, December 24th day a villain run his hand through the shop window of Christian Syberberg of this city, watchmaker, and took therefrom two watches and escaped; one of which is pinchbeck with a shagreen case, the other a large old-fashioned silver one with a pendulum. All persons are desired to be cautious in purchasing the above watches if offered for sale; and whoever will discover the thief or thieves so as they may be brought to justice shall have Forty shillings reward, Paid by Christian Syberberg."

Thomas Perry was also engaged in the clock and watch making business at the same time, January, 1757. He also advertised from the "Sign of the Dial," this time in Hanover Square. Besides setting forth his ability to clean and repair clocks and watches, and the fact that he has on hand for sale gold and silver watches new and second hand, he goes on:

"He will import, if bespoke, good warranted clocks at £14, they paying the freight and insurance, and clock cases for £10. Said Perry has just imported a parcel of very good watches which he will warrant."

Carden Proctor was another prominent New York clockmaker. In 1757 he lived at the house of Hugh Gaines the printer, in Queen Street. The next year he was to be found at "the house Colonel Martin lately lived in, near Mr. Joseph Hayes."

Hanover Square seems to have been a popular locality for the clockmaking trade. John Vogt lived at

the house of Patrick Carryl, in Hanover Square, in 1758, and made and repaired clocks and watches. The fact that he had a watch and clock maker living in his house attracted the attention of Hugh Gaines the printer to watch-papers, which were fashionable a little later. He advertises "A beautiful Print in miniature of that Truly Great Patriot the Honourable Mr. Secretary Pitt, adapted for watches, sold by the Printer hereof, Price 6d."

In Baltimore clockmaking was established early in the eighteenth century. There was the firm of Basil Francis and Alexander Vuille in 1766, but the firm must have been shortly dissolved, for a few months later Vuille is found doing business by himself.

Augustine Neiser of Philadelphia was at work from 1739 to 1780. William Godfrey, a well-known clock and watchmaker, also of Philadelphia, was at work about 1750; he died in 1763. These were but two of the many Philadelphia clockmakers whose names will be found in the list. I mention them because they were early at work.

George Nicholls, New York, was at work from 1728 to 1750. Lawrence Payne, New York, was working at about the same time, 1732-55. These men all made clocks with brass works, generally long-case, simply for the reason that they were the clocks made at this period.

Robert Shearman of Wilmington, Delaware, was at work at his trade from 1760 to 1770.

The first town clock in Norwich, Conn., was set up in the meeting-house in 1745. It cost £8 and the fix-

tures extra. At Schenectady the Reformed Nether Dutch Church had a bell and a clock in 1740. The clock may not have been American, for the bell was bought in Amsterdam and was dated 1732. There are many calls for apprentices in the various trades, journeymen are also in demand. Most of the advertisements run like this:

"Wanted, a Journeyman Goldsmith who will undertake the business. Good encouragement will be given by, clocks and watches made by

Hebron, May 8, 1778. EBENEZER YOUNGS."

NEW ENGLAND CLOCKMAKERS

The New England States led this country in the number of clockmakers they produced and the value of the improvements and inventions which were perfected by her sons. Of all the States, Connecticut leads the way as to the value and permanence of her works in this line. Her beginnings were small, but her final performance, like the shot fired at Concord, is now heard round the world. Not till after the Revolution, and when peace had allowed men to turn their attention once more to their trades, did the wonderful progress, which in the next thirty years revolutionized the clockmaking business, advance with giant strides.

There are half a dozen names of Connecticut men which stand prominently forth in clockmaking annals. They are Daniel Burnap, Eli Terry, Eli Terry, Jr., Silas Hoadley, Seth Thomas, and Chauncey Jerome. Of course there were many others who contributed

to the fame of Connecticut in the clockmaking industry, but these are undoubtedly the greatest.

A valuable little pamphlet which has become very scarce, called "American Clockmaking, Its Early History, by Henry Terry, Waterbury, Conn., 1872," contains much information concerning the connection of the Terry family with clockmaking, and sets at rest all doubts as to who instructed Eli Terry in his trade. Thomas Harland of England was the man, and his descendants still live in Norwich, Conn., where Thomas Harland settled. Mr. Henry Terry received the following letter from General Harland of Norwich, concerning his grandfather, Thomas Harland:

NORWICH, Feby. 27, 1872.

HENRY TERRY, ESQ.

Dear Sir:

I should have answered your letter of the 21st before, if I had not been obliged to wait for a copy of my grandfather's advertisement, from the Norwich paper of that date, which I now send.

My grandfather came to this town in 1773, having arrived at Boston the same year, in the ship from which the tea was thrown over in Boston Harbour. He came at once to Norwich and opened the business in which he continued until his death in 1807. I have always been told he had a large number of apprentices. On his arrival in Norwich he boarded with my grandmother's grandfather on my mother's side, Samuel Lefingwell, and made a clock for him which now stands in my hall. It has the name of the maker engraved on the face and shows the day of the month and the age of the moon. There are also other clocks of his in town.

Yours truly,

E. HARLAND.

This clock is shown in Figure 56 and is still owned by General Harland. The advertisement of Thomas Harland to which reference is made in General Harland's letter, appeared in *The Norwich Packet* for December 9, 1773, and reads as follows:

"Thomas Harland, Watch and Clock-maker from London, Begs leave to acquaint the public that he has opened a shop near the store of Christopher Leffingwell, in Norwich, where he makes in the neatest manner and on the most approved principles, horizontal, repeating and plain watches in gold, silver, metal or covered cases. Spring, musical and plain clocks; church clocks; regulators, etc. He also cleans and repairs watches and clocks with the greatest care and dispatch, and upon reasonable terms.

"N.B. Clock faces engraved and finished for the trade. Watch wheels and fuzees of all sorts and dimensions, cut and finished upon the shortest notice, neat as in London, and at the same price."

Thomas Harland's fame as an expert clockmaker must have been wide-spread through the Colonies, for apprentices flocked to him from all parts of the New England States. In a quaint and curious book called "The Mechanic's Festival and Historical Sketches" published in Providence, R. I., in 1860, I find a reference to some of Harland's apprentices, who like their master became distinguished. Seril Dodge of Providence, R. I., a well-known watch and clock maker, learned his trade of Harland and was admitted to the Mechanics' Association of Providence in 1788.

"Among his fellow apprentices were Henry and Rufus Farnum, William Cleveland, son of the Rev. Aaron Cleveland of Connecticut, and Jedediah Baldwin. The Farnums set up business in Boston. Mr. Baldwin went to Hanover, N. H., where he was also postmaster. Mr. Cleveland commenced business in

Fig. 56. Thomas Harland Clock

Fig. 57. Wag-on-the-Wall

Salem, Mass., and was succeeded by Jabez Baldwin, brother of Jedediah, who established the well-known firm of Baldwin and Jones in Boston, about the close of the year 1812."

The Baldwin family seems to have had a partiality for the "trade and mystery" of clockmaking, for there were several members of it who pursued that calling, and in 1834 another Jedediah Baldwin was at work, this time in Rochester, N. Y. Cleveland was twenty-three years old when he began to serve his apprenticeship in the shop of Thomas Harland; they generally began to learn a trade much earlier.

The clocks made by Harland and his apprentices, as well as by other makers of the period, had brass works, with a pendulum 40 inches long, vibrating in one second of time, and adapted to standing on the floor in a case 6 feet long. These were similar to the clocks made in European countries for many years and still common there.

These domestic brass clocks were excellent timepieces, not in the least inferior to the imported ones, and indeed there was no reason why they should have been inferior, for in many cases they were made by men who had learned their trade abroad.

The machinery used in Europe was scanty, and we used the same kind of hand engine as that used in England. This machine was employed till 1803, when water-power was used, and from this period dated the making of clocks by the thousand.

The long-case clocks were sold by travelling pedlars who transported them from place to place on

horseback, the buyers being expected to furnish their own cases. Often this was not done, and the dial and works hung on the wall till dirt and dust clogged the wheels. In Figure 57 is shown what is supposed to be an American wag-on-the-wall. There are no names or dates on it. The pendulum is of the "bob" variety and can only be seen by looking up under the dial. The painting on the dial is extremely gay and pretty, with a bunch of flowers in their natural colours at the top, and bands of red and green encircling the numbers on the dial. It belongs to Francis H. Bigelow, Esq., of Cambridge, Mass.

For some years I have appreciated the word "mystery" that the English Clockmakers use in the name of their Guild. But in America the mystery has been where different kinds of clocks which were made by the thousand have disappeared to. When I say that I have written forty-two letters trying to find a clock of the wag-on-the-wall variety, made in America, when I add that they were made in quantities till about 1830, you can imagine my chagrin when I could not find one. Not a trace of one in any of the towns which turned them out, nor in any museums or historical societies which I wrote to, so in despair I accepted the clock owned by Mr. Bigelow, and which seemed doubtful, on account of the short pendulum.

This book was practically complete, one half of it in the printer's hands, when the idea came to me to advertise in the *Rochester Post Express,* my home paper, for names of makers of old clocks which were owned in the city or vicinity. In reply an owner of

Fig. 58. American Wag-on-the-Wall

Fig. 60. Thirty-hour Long-case Wood Clock

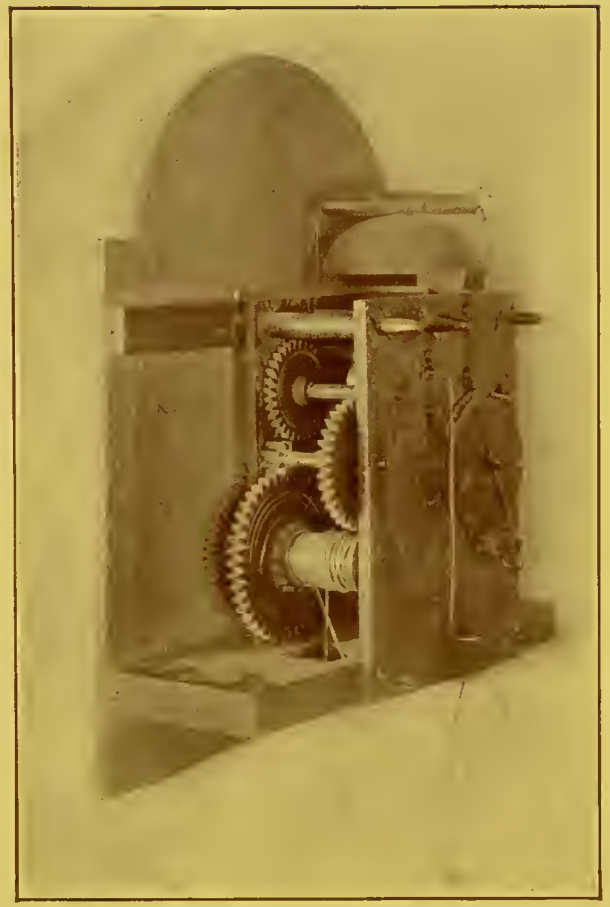


Fig. 59. Works of Wood Clock

Fig. 61. Terry Clock, Brass Works

many clocks and other fine antique articles asked me to come and see his things, which he thought might be of interest. When among the other seventeen clocks he had I found the clock which had given me so much trouble—well, perhaps you can imagine how I felt! It was one in perfect condition, in going order, had been bought at Batavia, N. Y., from a family whose tradition said it came into town from Connecticut in an ox cart. It had been carefully kept and cleaned, and though there was no maker's name on it none was needed. The clock told its own tale. You can see a picture of it in Figure 58. The pendulum is 38 inches long; the weights tin filled with small stones. The works are wood, the plates oak, the wheels boxwood, and it runs 30 hours. There is a calendar circle on the dial, and the clock strikes the hours. The works are shown in Figure 59.

All writers on the history of Connecticut mention of course the clockmaking industry of that State, and equally of course the history of the Terry family. No two histories give the same facts or dates. The following account, which was made with the sanction of the family, and is based on the account in Atwater's "History of Plymouth," is the correct one.

The Terry Family

Eli Terry was born April 13, 1772, at East Windsor, now known as South Windsor, Conn. His knowledge of clockmaking was gained from Thomas Harland, already mentioned, and Mr. Terry made his first

wooden clock in 1792. It is shown in the frontispiece. It is still in going order, and the following note concerning it appeared in the *Hartford Courant* for November 19, 1896:

"The personal property of the late James Terry of Winsted, Conn., president of the Eagle Lock Company, sold at auction recently. Among other things was this clock. His grandsons bid for it and it was finally sold to E. C. Terry for $1000."

In 1793, the next year after he made his first clock, Terry went to Northbury, then a part of Watertown, and commenced the manufacture of clocks. He married Eunice Warner of that place, and their children were, Anna, Eli (born June 25, 1799), Henry, James, Silas Burnham, Sarah Warner, Huldah, George, and Lucinda. Mrs. Terry died December 15, 1839. In November, 1840, Mr. Terry married the widow Mrs. Harriet Peck, and their two children were Stephen and Edwin. Mr. Terry died at the village of Terryville, on February 24, 1852.

The first clocks were made by Mr. Terry by hand. The machinery consisted chiefly of a hand engine for making the wheels, similar to those used by English clockmakers. Soon he conceived the idea of using water-power, and conveyed the water from "Niagara brook," which was across the street, to his shop.

The demand for clocks was so small that only three or four were commenced at a time by any manufacturer, and most of these were ordered beforehand by purchasers. (In the reports of manufactures in Providence, R. I., the *Mechanics' Association* says:

"From January to August, 1791, have been made six eight day clocks from $33.50 to $40. There might be made with the same hands three times that number. There is as many if not more imported from Europe than is made in this country.")

In 1797 Mr. Terry took out what was apparently the only patent he ever did apply for, and he suffered the fate of Wedgwood, the great English potter, whose contemporaries took his inventions without any conscience whatever. The patent reads as follows:

THE UNITED STATES OF AMERICA

To all to whom these letters Patent shall come

Whereas, Eli Terry a citizen of the State of Connecticut, in the United States, hath alleged that he hath invented a new and useful improvement in Clocks, Timekeepers and Watches, which improvement has not been known or used before his application; has made Oath, that he does verily believe that he is the true inventor and discoverer of the said improvement; has paid into the Treasury of the United States the sum of Thirty dollars, delivered a receipt for the same, and presented a petition to the Secretary of the State, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for this purpose. These are therefore to grant, according to the law, to the said Eli Terry, his heirs, administrators or assigns, for the term of fourteen years from the Sixteenth day of the present month of November, the full and exclusive right and liberty of making, constructing, using; and vending to others to be used, the said improvement, a description whereof is given in the words of the said Eli Terry himself in the schedule hereto annexed.

In testimony whereof I have caused these Letters to be made Patent, and the Seal of the United States is hereunto affixed. Given under my hand at the City of Philadelphia this seventeenth day of November in the Year of our Lord one thousand seven hundred and ninety-seven, and of the Independence of the United States the Twenty-second.

JOHN ADAMS,
By the President.
TIMOTHY PICKERING,
Secretary of State.

City of Philadelphia; to wit;

I do hereby certify That the foregoing Letters Patent were delivered to me the seventeenth day of November in the Year of our Lord one thousand seven hundred and ninety-seven to be examined; that I have examined the same and find them conformable to law. And I do hereby return the same to the Secretary of State within fifteen days from the date aforesaid, to wit; on the seventeenth day of November in the year aforesaid.

CHARLES LEE,

Attorney General.

The cases were considered a separate part of the clock and were obtained from cabinet-makers. There is a book called "The Journeymen Cabinet- and Chair-Makers Philadelphia Book of Prices," second edition published 1795, which gives much information not only as to the class of work done in America, but as to its price. There is but one copy of this book which I have been able to find, and that is in Philadelphia. It is a worn and dilapidated little book, or rather portions of two copies sewed together, which is placed in your hands when you give its high-sounding title, but it contains a variety of details which hitherto you could but guess at.

Philadelphia and Providence were both great centres for the manufacture of high-class furniture, and in some of the old newspapers you will find advertisements of mahogany planks and logs for sale, and learn the addresses of men who were "mahogany sawyers," "veneer sawyers," and others who were "surveyors of mahogany."

In the Journeymen's book the price of a long clock-case is given as follows:

A CLOCK CASE

	£	s.	d.
With square head and corners all solid with straight brackets	3	0	0
Arch'd head and Scroll Pediment	1	2	6
Fret and Dentils		10	0
Column Corners in body part		7	6
Ditto in Pedestal part		4	6
Scolloping the top of the door and rail		3	9
Swelling the Brackets		1	10½
Running the Scrolls with Ogee and bead		2	6
Veneering the front of the door in the body		2	10½
If with a feather		3	6
Veneering the front of the Pedestal		2	6
If with a feather		3	6
Framing the Pedestal part and planting Astrogals square		5	0
If with hollow corners		6	0

For the price of banding, Stringing and So.
See tables of ditto.

But this clock case at £3 must have been quite simple and made of poplar or some of the cheaper woods, for the next set of prices range very much higher:

CLOCK CASE

	£	s.	d.
A clock case with Square heads and corners Arch'd face, with straight or swell'd Brackets, Mahogany	11	5	0
Add for Scroll Pediments	1	15	0
Add for Frets and Dentils	1	2	6
Add for Column corners in Body and Pedestal	1	10	0
Add for framing pedes. and Planting Astrogals on with hollow corners		10	0

	£	s.	d.
For the same clock case in walnut	10	0	0
Add for Scroll Pediments	1	10	0
Add for Frets and Dentils	1	2	6
Add for Column corners in body and pedes	1	7	6
Add for framing pedes. and planting Astrogals on with hollow corners		9	0

There was still another case given, under the heading "A Time-piece Clock Case, 10x7 on clock face with

arch head, Mahogany £7 10 0. Walnut £6 15 0. Brackets for clocks 12x8, mahogany, £1 5 0. Walnut £1 2 6." These were, I suspect, such clock cases as were used by Wood, Mulliken, etc.

The business of delivering the clock works was onerous and took much time. In 1803 Terry found that his clocks need not be delivered in person, and he began installing more machinery and water-power. At this time he conceived what was considered a foolish and gigantic scheme. This was to make clocks by the thousand. He was jeered at and ridiculed, and when it was known that he had contracted to make four thousand clocks in the next three years, his failure was predicted.

In 1807 he sold his water-power to Heman Clark, who had been an apprentice of his, and bought water-power and buildings at Greystone. The four thousand contract clocks were to be wood clocks, thirty-hour, with seconds pendulum, dial and hands included, for $4 each.

At this time, 1807, most of the clockmakers in this country made either the eight-day brass clock or the thirty-hour wood clock. One of these thirty-hour wood clocks is shown in Figure 60. It has a handsome case of mahogany inlaid with satinwood, is in going order, and belongs to Dr. G. W. Goler of Rochester, N. Y.

Both the thirty-hour wood clocks and the eight-day brass clocks had pendulums beating seconds, or seconds pendulums, as they were called. The few exceptions to this general rule were the timepieces made by Wil-

lard at Roxbury and brass clocks produced by two makers, one at Salem Bridge, now called Naugatuck, and one in that part of Plymouth now known as Thomaston. These brass clocks made at Plymouth and Salem Bridge had an escapement wheel with sixty instead of thirty teeth to adapt them to a half-seconds pendulum, the cord passing upward and over a pulley on the inside of the top of the case and attached to the weight moving the whole length of the inside of the case. The plates for the frames of these clocks and the blanks for the wheels and other parts were cast metal. The pinions were of cast steel like those of English clocks.

The length of the cases for half-seconds clocks bears about the same ratio to the length of the cases for clocks with seconds pendulum that the length of the pendulums bear to each other. The name of "shelf clock" was applied to these clocks to distinguish them from clocks with seconds pendulums, the cases of which stood on the floor. An early example of these shelf clocks is shown in Figure 61, made by Eli Terry, and now the property of Mr. James Terry of Hartford, Conn., of The Terry Steam Turbine Co., to whom I am indebted for the pictures of first clock by Eli Terry shown in the frontispiece, and for this handsome shelf clock. This shelf clock is unusual from the fact that the works are brass, not wood.

Although the Willard clocks will be spoken of later, it is well to say here that they consisted of the time-train similar to those in use in English brass clocks, with the omission of one leaf in the pinion on the

escapement wheel arbor, the escapement wheel having an additional number of teeth. It was thus possible to use a pendulum shorter than the seconds and longer than the half-seconds pendulum.

In 1807, when Mr. Terry began to work on his contract for the four thousand clocks, the clockmaking industry was confined to the conditions described. The making of these contract clocks occupied three years, and Mr. Terry, whose inventive genius was never idle, conceived during this period the idea of making a thirty-hour clock with wood movement and half-seconds pendulum. It could of course be made much cheaper than the clock with brass works. Mr. Terry did not consider his first effort successful, and though he made several hundreds of these clocks and sold them, he discontinued making them after a year. Other clockmakers did not feel as he did, and continued to make and sell them some time after he had stopped their manufacture.

These clocks are seldom to be seen now. They had no dials, but the figures to indicate the time were painted on the glass in the front of the case. The front plate of the frame was open, and the movement was substantially the same as those of the thirty-hour wood clocks with a seconds pendulum, the escapement wheel having sixty teeth instead of thirty to adapt it to a short half-seconds pendulum. The cord passed upward and over a pulley on the inside of the top of the case, and down around a pulley attached to the weight and back to the top of the case, where it was fastened. The only trace I can find of one of these clocks is

Fig. 62. Terry Clock without Dial

Fig. 63. Terry Shelf Clock. Wood Works

Fig. 64. Group of Early Shelf Clocks

Fig. 65. Pillar and Scroll Top Clock

shown in Figure 62. These clocks were exhibited in Plymouth, Conn., in 1895, on its centennial celebration, and are all early products of its makers. The use of this picture as well as those of the early clockmakers of this town is through the permission of Francis Atwater, Esq., of Meriden, Conn., who arranged the "Souvenir History of Plymouth."

In 1809 Eli Terry, Seth Thomas, and Silas Hoadley commenced making wood clocks under the firm name of Terry, Thomas & Hoadley. The association lasted but a year, when Terry sold out his interest. Thomas and Hoadley continuing at Greystone, a village in the southeast part of Plymouth, while Terry removed to Plymouth Hollow.

In Figure 63 is shown an early example of Terry's wood clocks, which belongs to the collection of Marshall G. Hill, Esq., of Afton, N. Y. The case is mahogany, part solid and part veneered. Each part of the case is numbered XXXII, showing the case was made in sections and put together later. The movement is of wood, one-day time, bell strike. The verge verge wheel, and pendulum are in front of the dial. which is of wood decorated in gilt and colours. The cords run in top and bottom pulleys, thus doubling the length of time the clock would run if only top pulleys were used. The bottom of the case is solid mahogany, and there are openings in it under each weight, allowing the weights to pass down through the bottom to the shelf or table on which the clock stands. This clock was made prior to 1814, when Terry made what he called his "perfected wood clock," for the verge is

mounted on a button instead of on the short steel arm which Terry used later. The label is also different from those commonly found in his shelf clocks. The wording on it reads: "Patent. Invented, Made and Sold by Eli Terry, Plymouth, Con." On either side of this central lettering are two oblong blocks printed with the days of the month and the names of the months, six on each side. At the top of each block is printed, "Variation of the Sun and clock." At the bottom of the label is this: "N. B. To wind up the weights put over the crank with the handle down and towards the Figure 6."

It took Mr. Terry several years to perfect a wood clock which satisfied him, but in 1814 he had succeeded. This clock ran thirty hours, the construction was quite new, for both the time and striking trains had a greater number of wheels, and it was so radically different that it was substantially a new manufacture. The two inventions which made this clock such a novelty consisted in placing the dial works between the plates of the frame instead of between the front plate and the dial. The other novelty was the mounting of the verge on a steel pin inserted in one end of a short arm, a screw passing through the other end and into the front plate.

In the early wood clocks the pin was inserted in a button midway between the centre and the perifery. By turning the button the verge was adjusted to the escapement wheel, as in the clock in Figure 63.

Chauncey Jerome, who was certainly an authority on this subject, says in his "American Clock Making,"

that when Eli Terry began making these wood clocks he worked alone. "About the year 1800 he might have had a boy or one or two young men to help him. They would begin one or two dozen at a time, using no machinery, but cutting the wheels and teeth with a saw and jack-knife. . . . They were first marked out with a square and compasses and then sawed with a fine saw, a very slow and tedious process. Capt. Riley Blakeslee, of this city, lived with Mr. Terry at that time and worked on this lot of clocks cutting the teeth." This was the first lot of 500 clocks made by Mr. Terry in 1808.

In Mr. Henry Terry's pamphlet on "American Clock Making," published 1872, he says: "The statement that has been made in advertising circulars and other publications, that American clocks were made wholly of wood until a late period, is not entitled to credit; nor has the story that 'the wheels were marked on the wood with square and compass and then cut out with a fine saw and jack knife,' any better foundation. It is a traditional fabrication—a foolish story." He then continues: "As part of this history it should here be stated that Asa Hopkins, of the parish of Northfield, town of Litchfield, Conn., obtained a patent about the year 1813 on an engine for cutting wheels. This invention was for the introduction and use of three mandrels, by which one row of teeth, on a number of wheels, was furnished by one operation of the engine, a machine still in use, but superseded at the time by a new construction of engine with only one mandrel."

While it may be quite true that eventually the wheels

were cut by machinery, the early wood clocks prior to 1808 were largely made by hand. The works distinctly show it, and the machinery in use for making cast brass clocks was of no use in making wood ones. In fact it is often overlooked both by writers on the subject and collectors, that as far as the mechanical part is concerned, the making of cast brass clocks, of wood clocks, or of sheet brass clocks are entirely separate industries.

It is commonly supposed that the wooden clock is exclusively an American production. In Smith's "Handbook and Directory of Old Scottish Clockmakers," he has this to say with reference to Anthony and Mathew Hopton of Edinburgh. They were "wooden clockmakers and evidently brothers, though occupying different premises, Anthony being located at the back of the Fountain well, while Mathew was in the Lawnmarket. They were in business from 1799 up to 1817 or thereabout, and along with another maker they enjoyed a monopoly of the manufacture of these humble but useful articles here. Strange to say, the Hammermen never seem to have troubled them, their productions being evidently looked down upon; but it is certain that the poorer members of the community could not afford the price demanded for the long case clocks and would be content with a 'Wag at the Wa.' So these men supplied an article which must have had a ready sale. One thing in their favour was that the Government laid a tax on imported wooden clocks, and reference is sometimes met with in the newspapers

of the day as to numbers having been seized from smugglers and destroyed."

In Lord Grimthorpe's "Clocks, Watches and Bells" he speaks with much scorn of American clocks, not the wood or cast brass ones, but those of sheet brass: "They have advanced considerably in appearance at any rate since the original Sam Slick form; and by the way, it seems that the original Sam Slick was one Eli Terry, whose name ought to be preserved in a book on clock making." Rather a cavalier way of disposing of so great a genius in clockmaking history.

But no matter what the foreign opinion of wood clocks was, their manufacture progressed in America. All Terry's fellow townsmen and neighbours who were in the clockmaking business immediately began to make these wood clocks, and the half-seconds pendulum clock made of cast brass was no longer manufactured.

In Figure 64 a group of these early shelf clocks is shown—the centre one by Terry, the one without ornaments by Seth Thomas, the one with wooden knobs by Mark Leavenworth. The little one in front is a later Seth Thomas. These clocks all belong to Dr. G. L. Hurd of Lakeville, Conn. Mr. Terry seems to have occupied the same position with regard to the Connecticut clockmakers that Wedgwood did to the Staffordshire potters. He originated, they copied.

In speaking of shelf clocks in his book "American Clock Making," published 1860, Chauncey Jerome says: "Mr. Eli Terry in the year 1814 invented a beautiful shelf clock made of wood which completely

revolutionised the whole business. The making of the old-fashioned hang-up wood clock passed out of existence. This patent article Mr. Terry introduced was called the 'Pillar Scroll-Top Case.' The pillars were about twenty-one inches long, three-eighths at the top, resting on a square base, three quarters of an inch at the base, and the top finished by a handsome cap. It had a large dial eleven inches square, and a tablet below the dial seven by eleven inches." They were sold for $15 apiece when first manufactured.

One of these pillar and scroll top clocks is shown in Figure 65.

In 1814, when Mr. Terry began to manufacture clocks in large numbers, he took his two sons Eli, Jr., and Henry and began to teach them the trade. The factory was at Plymouth Hollow near Terry's Bridge. In these same works Henry Terry continued to make clocks. When competition became too keen, he made here woollen goods. He died in 1877.

The clocks of this pattern made by Eli Terry and his sons and those who copied his designs, supplied the American market for twenty-five years. Little was done in export trade, for a sea voyage had a bad effect on wood works, and caused the clocks to become poor timekeepers. But about 1837, when the manufacture of sheet metal began, the clockmakers eagerly took hold of sheet brass for making metal works clocks. Clocks with wire pinions were much cheaper and more quickly made than wooden ones, so as wood clocks drove out the manufacture of cast brass clocks, so sheet metal drove out wood clocks.

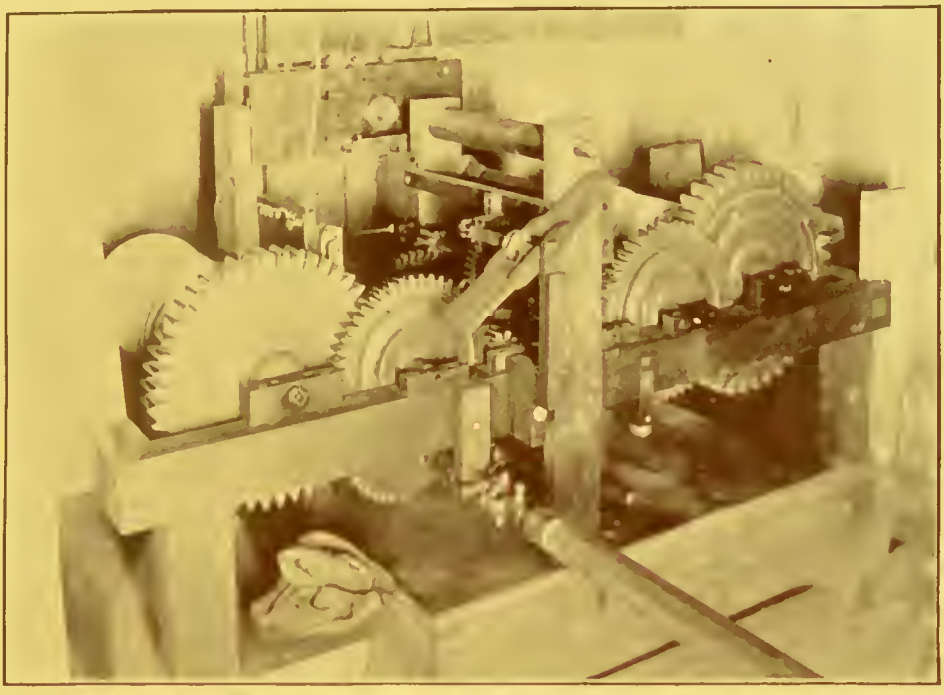


Fig. 66. Works of Terry Tower Clock

Fig 67. Church at Terryville, Conn.

Fig. 68. Eli Terry

Fig. 69. Seth Thomas

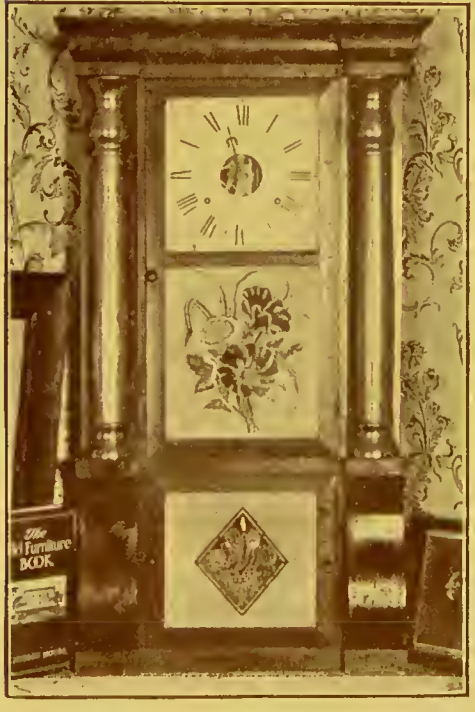


Fig. 70. Seth Thomas Clock

Fig. 71. Seth Thomas Clock

These two inventions of Terry's which were to be found in the wood clocks were equally adaptable to cast or sheet brass clocks, and either or both of them are to be found in most clocks made in this country. That is, the dial works being placed between the plates, and the verge mounted on a short steel pin which is inserted in one end of a short arm. Nor has the use of these inventions been confined to America alone.

In "American Clock Making" by Henry Terry, he says: "The making of parts of a machine so that one part may be exchanged for a similar part in another machine is an American invention." But the name of the inventor is not known, though as early at 1807 American clockmakers were making the different parts of clocks to gauges, so that they were interchangeable. It must not be assumed that the Terrys confined themselves to low-priced wood or sheet metal clocks. They made high-class brass clocks which were sold to clockmakers as regulators, and cost from one to two hundred dollars. Eli Terry also made tower clocks; the works of one of his early ones is shown in Figure 66. It was placed in the spire of the Congregational Church at Terryville, Conn. (see Figure 67).

He also made a tower clock for New Haven, which was placed on the Centre Church on the Green. As it had two dials showing mean as well as apparent time, it was the cause of much annoyance and controversy. Mr. Terry finally removed it. These church or tower clocks were made in three pieces, the timekeeping part of ordinary size and moved by a separate weight, and the dial wheels by another, while that of the time-

keeping part weighed only three or four pounds. Church clocks constructed in this way were rendered as perfect timekeepers and as little affected by the weather as any house clock. A portrait of Mr. Terry is given in Figure 68.

Eli Terry, Jr., inherited his father's inventive genius, and when twenty-five years of age built a shop of his own on the Pequabuck. He did not live to be an old man, but was forty-two when he died, yet he left a fortune, and the village where he lived was called after him, Terryville, in honour of his many achievements.

In fact all the sons of Eli Terry the first, seem to have inherited the inventive spark from their father. Silas Burnham Terry had a shop at the junction of the Pequabuck and Poland brooks in 1831 where he too made clocks. His inventive ability overshadowed his business capacity, and financially he was less fortunate than his brother Eli, Jr., though his knowledge of the mechanism of a clock could not be surpassed.

His brother Henry speaks of him as follows in an obituary notice which appeared in the *Waterbury American* of May 30, 1876. He mentions the various financial troubles which Silas suffered in 1837 and 1839, and then goes on:

"He had, however, during these years of business adversity introduced new machinery from which others derived more benefit than himself, and had introduced newly arranged clocks which have since proved the best on the market. The clock known as the 'Seth Thomas Regulator No. 1 and 2,' is one. It is a perfect timekeeper and is as reliable even for astronomical

purposes as the more showy clocks, costing ten times as much. The same clock is also made at Winsted by the Waterbury Clock Co. He also made a new gravity escapement regulator.

"About 1852 he invented a torsion balance clock, so called. It was designed for a cheap clock. The movement was carried by a spring as in other marine clocks, but the balance was a flattened wire, stretched from top to bottom of the clock, to which was attached a horizontal rod or wire with a small ball at each end, which by their vibrations served to regulate the motion of the clock and took the place of the hair spring. A joint stock company was formed to manufacture the clock."

It did not prove a success, however, and its manufacture was discontinued. After this Silas B. Terry was in the employ of William L. Gilbert at Winsted and of the Waterbury Clock Co. Then he and his sons organised the Terry Clock Co., and he continued at the head of this firm until his death.

In 1862, when Eli Terry 3d, son of Eli Terry 2d, was but twenty-one years of age, he commenced to make clock springs in the factory at the junction of the Poland and Pequabuck brooks, which his uncle Silas B. had built. His, too, was an inventive genius, and he tempered, hardened, and coiled springs in an entirely new way. Shortly, however, the Seth Thomas Clock Co. of Thomaston took over the manufacture.

The springs used in imported clocks were and still remain too expensive for use in the low-priced American clocks. Before the invention of Terry's coiled

spring, brass springs, and a steel elliptic spring connected with a fusee were used. The use of these was discontinued when the hardening and tempering of coiled springs was found possible and put in use.

This was the first step in making American steel springs, and many springs are still made in this way. Later the process of tempering and hardening springs under tension, and then polishing and bluing them before they were coiled, was introduced. Mr. Terry's pamphlet states: "A knowledge of the first discovery was told and sold to two men, one paying $500, the other $200, each one entering into a separate bond of $500, not to communicate knowledge of the discovery to others."

Other Connecticut Clockmakers

SETH THOMAS

Seth Thomas (see Figure 69) was born in Wolcott, Conn., in 1785. Like many of his associates who later achieved distinction in their branches of business, his education was meagre, and consisted of such knowledge as he could acquire at a public school. He was apprenticed to a carpenter and joiner, learned his trade, and upon his majority, with his kit of tools and a very little money, he formed a partnership with Eli Terry and Silas Hoadley under the firm name of Terry, Thomas & Hoadley.

The account books of Eli Terry, which are still preserved, show what part Seth Thomas and Silas Hoadley took at first in the new business. In the years

1808, 1809, and 1810 Mr. Thomas did what was called the "joiner work," that is, he made the cases, and he also "put together" clocks, that is, fitted the wheels and different parts together and got the clocks, one at a time, into running order.

In 1810 Mr. Terry sold out his interest and the firm became Thomas & Hoadley. They made only long-case clocks. This partnership lasted two years and then Seth Thomas sold his interest to Mr. Hoadley and came to Plymouth Hollow where he began the manufacture of clocks on his own account. The business which Mr. Thomas built up from very small beginnings shows that he was not only a good mechanic but a clever business man as well. Besides his clock works he built a cotton mill, also one for brass rolling and wire making. He was twice married and had a family of nine children, six of whom survived him.

In 1853, having acquired a fortune, he organised the Seth Thomas Clock Company under the joint stock laws of Connecticut. After his death, which occurred January 29, 1859, the town of Plymouth was divided and that portion where the works were situated was named Thomaston in his honour. The works are still in operation.

By 1814 the making of long-case clocks in large numbers was dropped, and all clock manufacturers hurried to make the popular shelf clock which had been perfected by Eli Terry. Brass clocks, too, were made in fewer numbers, since the cost was heavy. All united in turning out clocks with wood wheels, and the competition was so keen that they were sold at a very low

price. Plymouth was not the only town where the making of clocks was the chief industry. At Waterbury, Winsted, and Bristol the shelf clock was made in large numbers and sent all over the country. In Bristol the Ives Brothers, Joseph, Chauncey, and Lawson, made what was known as the "rolling-leaf pinion," a clock with brass works. When, however, the use of the lantern or cheap wire pinion became general, the manufacture of these clocks stopped.

Two Thomas clocks are shown in Figures 70 and 71. The paper inside the clock shown in Figure 70 reads: "Patent Clocks, Patented by Eli Terry, and made and sold by Seth Thomas, Plymouth, Con. Warranted if well used."

The clock shown in Figure 71 belongs to the Rev. William Wiley, Massapequa, Long Island. It is in good condition and an accurate timekeeper.

SILAS HOADLEY

The third member of the pioneer company of Terry, Thomas & Hoadley was Silas Hoadley. He was born in 1786 at Bethany, Conn., and, like his associates, his educational advantages were few. In fact the years of apprenticeship were so long that boys were taken from school very early, so that they might become journeymen by the time they were of age. Hoadley was unusually young when he was bound apprentice to his uncle Calvin Hoadley to learn the trade of a carpenter.

In 1809 his apprenticeship was completed and he

formed the partnership with Terry and Thomas, and commenced to make clocks at Greystone, a portion of Plymouth. One after another the partners withdrew, Terry in 1810, Thomas in 1814, leaving Silas Hoadley alone. He continued to make clocks till 1849, when he rented his shops and closed up his business. There were no more clocks made in these works, which were now devoted to the making of knives and shears.

Mr. Hoadley, being a man of parts, was able to overcome many of the disadvantages of a faulty education. His townspeople elected him to represent them in the General Assembly several times, and in the year 1844 to the State Senate. He stood high in Masonic orders, was a good churchman, Episcopalian, and his agreeable manner made him many friends. He worked hard and made sufficient money to retire with comfort, educate his five children, and contribute liberally to both his church and the town where he lived so long. He died at Plymouth, Conn., on December 28, 1870.

SAMUEL AND LUTHER HOADLEY

There were others of the name of Hoadley successfully engaged in the making of clocks, for in 1807 Samuel and Luther with Riley Whiting opened works at Winsted, Conn., for making wood clocks. The way these clocks were made was similar to that followed by other makers of the period, and a vast number of them were distributed in Canada and the United States.

Luther Hoadley died in 1813. Samuel entered the

army, retiring from the business. Mr. Whiting continued successfully, enlarged the business, built new shops and made eight-day clocks. He died in 1835.

The business was purchased in 1841 by Lucius Clarke, who associated with him William L. Gilbert. The firm name was Clarke, Gilbert & Co. Later it became W. L. Gilbert, and in 1866 was incorporated as The Gilbert Manufacturing Co. In 1871 it was reorganised as the Wm. L. Gilbert Clock Co., and does a large business, sending its clocks all over the world.

CHAUNCEY JEROME

Most of the clockmakers who flourished between 1800 and 1850 made more or less of a success at the business and retired at ease. Chauncey Jerome was an exception, for though he made more than one fortune at clockmaking, he lost them all by too great confidence in the integrity of business associates. When he was sixty-seven (see Figure 72) he wrote a little book which he called "American Clock Making," but which is in reality a history of his own life and trying experiences.

He was born June 10, 1793, in Caanan, Conn. His father was a blacksmith and nail-maker, and Chauncey was one of six children. In the year 1797 the family moved to Plymouth, Conn., and Chauncey when nine years old was taken to work in his father's shop, and his education, such as it was, was received prior to that time.

On the death of his father in 1804 the family was

Fig. 72. Chauncey Jerome

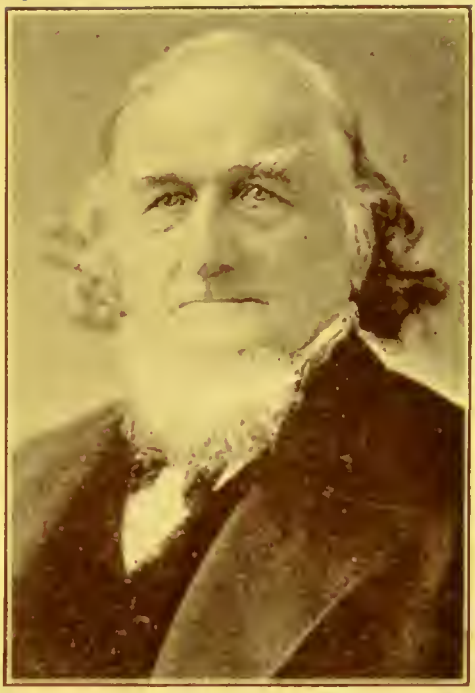


Fig. 75. Hiram Camp

Fig. 73. Jerome's-Darrow Clock

Fig. 71. Bronze Looking-glass Clock

Fig. 76. Ingraham Clock

broken up, and Chauncey was put to work on a farm. At fifteen he was bound over to a house-carpenter till he was twenty-one, and was to have board and clothes for his services. When he was eighteen years of age he made a bargain with the man to whom he was bound, that if he would give him four of the winter months each year he would clothe himself.

His first job was at Waterbury, where under the guidance of Lewis Stebbins, a singing master (they combined several "trades" in those days), he began to make dials for long-case clocks. He learned what he could about clocks and particularly about clock-cases at Waterbury, and then hired himself to go to New Jersey to make seven-foot cases for clocks. The works sold at that time for about $20, and he calculated the case would cost about as much more, bringing the clock and case to the neighbourhood of $40.

Jerome and his employers made the trip in December, 1812, in an old lumber wagon, and carried their own provisions. That journey, which took many days, was so wonderful to the country boy that he remembered nearly every detail more than fifty years after.

At twenty-one, when his apprenticeship was over and he was a joiner, he married on his wages of $20 a month. That he had a struggle was a matter of course. He and his little family went through many vicissitudes, till in 1816 he went to work for Eli Terry in making his new "Patent Shelf Clocks." Up to this time most of the work on the cases had been done by hand. Mr. Terry, being a clever mechanic, set about reducing the cost of these clocks. In his works

the first circular saw was installed, and Jerome learned to make the cases largely by machinery.

In the spring of this year, 1816, Jerome bought some clock movements, dials, and glasses, and set to work making clocks by himself. He succeeded very well, selling the clocks when completed for $12 each. When he received an order for twelve clocks from one man he thought his future was assured, and the $144 he received in payment was the largest sum of money he had ever had at one time.

Little by little he increased his business, till in 1821 he sold his house in Plymouth and moved to Bristol, Conn. Mr. Terry bought the house, paying Jerome one hundred wood clock movements, with dials, tablets, glass, and weights. The house he bought in Bristol was paid for in clocks, two hundred and fourteen. In 1822 Jerome built a small shop for making the cases, installed the first circular saw ever seen in Bristol, and continued the making of cases only, for a few years. But he found that there was little money in it, and he finally got Chauncey Boardman, who formerly made "hang-up" clocks, to make two hundred movements. These were enclosed in pine cases, four feet high, "richly stained and varnished."

In 1824 the firm of Jeromes & Darrow was formed, consisting of Chauncey and Nobles Jerome and Elijah Darrow, and the making of clocks was begun. In Figure 73 one of these Jeromes-Darrow clocks is shown.

A little later Jerome got up what he called the "Bronze-looking glass clock," which was six inches

taller than Terry's patent clock, but which could be made for one dollar less, and sell for two dollars more. One of these is shown in Figure 74, and belongs to Mr. F. Hahn of Rochester, N. Y. The added six inches give it a very stately air, and the pillars and scroll are handsomely carved. The little fruit piece at the bottom of the door is painted in bronze on the glass. Where the picture of Washington is now, was a looking-glass, "bronze looking-glass," but it was removed by the present owner on account of its poor condition. Another piece of glass would have been a better piece of restoration than the picture.

About 1837, when the great panic swept over the country, there was a breakdown in the clock business, and it was thought that Connecticut had done with clockmaking.

Jerome says: "Wood clocks were good for time, but it was a slow job to properly make them, and difficult to procure wood just right for wheels and plates, and it took a whole year to season it. No factory had ever made over ten thousand in a year; they were always classed with wooden nutmegs and wooden cucumber seeds and could not be introduced into other countries to any advantage. But this was not the only trouble; being on the water as long as they would have to be, would swell the wood of the wheels and ruin the clock. Then we had the eight day brass clock costing about $20, the idea had been that a brass clock must be an eight day clock, and all one day clocks should be of wood. The plan of a one day brass clock had never been thought of."

But Jerome was alive to the advantage of making such a clock, of brass, and finally succeeded, entirely revolutionising the clockmaking business. By 1840 his business was very large, and in 1842 he sent his first consignment of brass clocks to England, and when they were once on sale they went quickly. One shipload of his clocks was seized by the English Government, which had the right to seize goods at the owner's valuation, adding ten per cent. to the invoiced price. In fact Jerome disposed of two invoices in this way, but the third was passed, the English Government coming to the conclusion that perhaps he knew his business best.

In 1844 Jerome moved his business to New Haven, where he carried it on successfully for years. The process of making the cases was much simplified by Jerome, and the machinery for cutting the brass wheels was improved so that it was possible for one man to make the wheels for many hundred clocks in a day.

In Wood's "Curiosities of Clocks and Watches," published in London, 1866, there is this about American clocks: "American clocks have found great favour with the public, and by reason of their portability and the neatness of their exterior have much superseded the old familiar Dutch clocks. They are of inferior workmanship, and lack altogether that finish for which the English workman is justly proud. America has organised a very extensive system of clock manufacture, which is carried out on the factory system, chiefly at Connecticut. At that place one clockmaking firm employs two hundred and fifty hands. Many of the operatives are boys and girls, and the products of their

united labours are six hundred clocks a day. 'Simmond's Colonial Magazine' for 1845 contains an account of the clock factory of Jerome, in the city of New Haven, then one of the most extensive establishments of the kind in the United States. The writer says: 'We cannot describe minutely the whole process of making a clock, or the life-like movement of the machinery; it would take more time and space than we can at present devote to this purpose.

"'In short, the case, movements, plates, face, etc., which when put together form one of Jerome's celebrated Brass Eight Day Clocks, go through some fifty hands before being completed. One man can put together about seventy-five movements per day, while every part, from the first process to the finishing, goes on with equal rapidity. We learn from him that the greatest bulk of clocks which he anticipates making this year are designed for European Markets, and that he has already received orders from houses in London and Birmingham, England, a large house in Scotland, and also some quite extensive dealers in Canada.

"'In fact the Yankee clock is becoming a general favourite in England, almost superseding the old Dutch clock which has long been used as a timepiece. Jerome yearly consumes of the various articles used in the manufacture of clocks the following enormous quantities: 500,000 ft. pine lumber; 200,000 ft. mahogany and rosewood veneers; 200 tons of iron for weights; 100,000 lbs. of brass; 300 casks of nails; 1500 boxes of glass at 50 ft. per box; 1500 gallons

varnish; 15,000 lbs. wire; 10,000 bbls. glue; 30,000 looking-glass plates. $2400 are paid out yearly for printing labels, and for screws, saws, coal and oil. Workmen employed, 75; paid wages yearly, $30,000; clocks made per day, 200; per year, 50,000.'

"The wheels [continues Wood] and plate-holes of American clocks are all stamped; in fact there is very little worth of manual labour in the whole of their movements. The pinions are all of a kind that are called lantern pinions, which have their leaves made of pieces of wire set round an axis in two collars. A traveller in the Mosquito territory in Central America writing in 1856 of a visit paid by him to the negro king of the country, says that a Yankee clock was part of the furniture of his state room.

"That which is accomplished in an American clock by a spring, the going, was in the tall old-fashioned eight-day clocks performed by the gradual fall of a heavy weight."

That these wood clocks were not so perishable as might be imagined, the following extract from a letter will show. The clock referred to is shown in Figure 73.

"I have two of the old mantel clocks, one made by Jeromes-Darrow, Bristol, Con. (that is the way my Conn. is spelled), and the paper is gone from the back of the other. The latter is in fine condition. The first one has had a hard time but still maintains its dignity. I recently brought it from the attic and have just found a man who can fix these old wooden works, and have arranged to have both put in working order.

I took off the face of the Jeromes-Darrow clock this morning and find dates of repairs from 1862 till 1888 when the old 'tinker' died who had kept it going.

"It came to my father when he was first married about sixty years ago or more. In repairing the house it got wet, and as the case swelled up and cracked open, it was thrown out on the woodpile in 1862 as useless. The old tinker came along, spied it, offered to repair it and did, and kept it going till his death in 1888. Since then no one has fixed it, and it was only last week that I found an old man who says he can." This clock is owned by Miss Mary Woodward of Sharon, Conn., who is the owner of many interesting pieces of old furniture and china.

To return to Chauncey Jerome, we find that in 1850 he became a member of a joint-stock company in New Haven, under the name of the Jerome Manufacturing Co. In 1855 the company failed disastrously, and Mr. Jerome was ruined. P. T. Barnum was connected with this company during the last six months of its existence. Although Barnum made much of the notes he was forced to pay, it seems as if the real difficulty was the previous indebtedness of the Terry & Barnum Co., which was assumed by the Jerome Manufacturing Co. Mr. Jerome's last years were clouded by misfortunes, and it was only his ingrained New England faith which sustained him. He closes his little book as follows: "The ticking of a clock is music to me, and although many of my experiences as a business man have been trying and bitter, I have the satisfaction of knowing that I have

lived the life of an honest man, and have been of some use to my fellow men."

HIRAM CAMP

Hiram Camp, who was born in Plymouth, Conn., in April, 1811, was a nephew of Chauncey Jerome. Till he was eighteen he was employed on the farm, but disliking the work and having a decided taste for mechanics, he went to Bristol, where he entered the clockmaking business of his Uncle Chauncey. The clockmaking business was at this time, 1829, still in a crude state, and there were many improvements which came later, some of them invented by Mr. Camp himself, who was not only a skilled mechanic but had an inventive ability as well. A picture of him is shown in Figure 75.

In 1845 Mr. Camp went to New Haven, where he commenced making clocks. When the Jerome Manufacturing Co. failed it was succeeded by the New Haven Clock Co. Hon. James English was the largest holder of stock in this company, and Hiram Camp was its president. He owned much stock, and held the office of president for about forty years. Although an active man of business he made time to hold many public offices. He became much interested in many charitable societies, and died in New Haven, July 8, 1893, at the age of 82.

HIRAM AND HEMAN WELTON

At one time in the history of Plymouth the name of Welton was an important one. Hiram and Heman Welton bought out the "upper shop" of Eli Terry, Jr., and used it for many years, their business at one time being the largest in Terryville, as that part of Plymouth was called.

They underwrote for some firm which failed, and this caused the failure of their firm also, which occurred in 1845. Their shops remained closed but a short time, and were then opened as a factory for locks, for the manufacture of which Terryville has since become famous.

ELIAS INGRAHAM

Another well-known clockmaker of Bristol, Conn., was Elias Ingraham, whose descendants still carry on the business which he founded, making the old patterns which he designed because they cannot better them.

Elias Ingraham was born in Marlborough, Mass., in 1805, and died in Bristol in 1885, just as the business he had established began to be a commercial success. He was originally a cabinet-maker, but was, of course, influenced by the general business of the town of Bristol, clockmaking, and went into that, turning his early training to account in designing the cases. One of his patterns, called the "Sharp Gothic," which has become so familiar all over America, he designed while on a sailing voyage to Caracas, taken to introduce

his clocks into South America. The pattern case for the "Sharp Gothic" clocks he whittled out of a block of wood in an effort to beguile the tedium of the trip, and it proved to be one of his greatest successes. Had he protected the design by a patent he would have made a fortune, but as he failed to do that the design was copied by other makers and sold so extensively in this and other countries, that it is believed to have been the best seller of any distinctively American design for clocks.

This Gothic pattern was, as first designed by Ingraham, a very good one. It had a symmetrical peak or gable rising between two pillars ending in two graceful pinnacles. In the pirated designs there were usually but two columns and two pinnacles, and the peak was not so well proportioned. These Sharp Gothic clocks in the original Ingraham design are hard to find, and apparently the company now working the factory at Bristol does not own one, since my repeated letters to them on this subject have met with no response.

Several of the popular designs for clock cases made prior to 1875 were designed by Ingraham, and called by him "Doric," "Grecian," "Ionic," etc. These designs are still used by the firm for their foreign trade.

In Figure 76 is given one of Elias Ingraham's clocks, which is an unusual pattern of wall clock. It is an excellent timekeeper. Inside the lower door is a round paper which reads as follows:

E. Ingraham and Co.

BRISTOL, CONN.

Manufacturers of
Eight Day Time And Strike Clocks
Elias Ingraham's Patent.

Directions for regulating the clock.

If it runs too slow, raise the Ball; if too fast lower it. This may be done by means of the screw at the bottom of the pendulum.

Directions for setting the clock running.

Hang the clock in a perpendicular position; hang on the pendulum ball, and turn the clock to the right or left till it is in beat, then fasten firmly to the wall.

This clock belongs to Francis H. Bigelow, Esq., of Cambridge, Mass.

"Elias Ingraham was a man of heroic mould, tall, broad-shouldered and with a leonine head. Julia Sparks, his wife, of the Glastonbury family of that name, never forgave her husband for the leave he took of her when he went to South America. She was a high-strung woman, and he seems to have dreaded breaking the news to her. One summer day he came home and astonished her by calling for his winter overcoat, which she gave him. He then left the house and she next heard of him from New York, where he wrote her a letter saying that he was sailing for South America. She rehearsed the story as long as she lived, but she never told it without a recurrence of her old feeling of resentment."

E. & G. BARTHOLOMEW

E. & G. Bartholomew were also Bristol clockmakers who manufactured large numbers of "hang-up" as well as shelf clocks. They were at work about 1820. One of their clocks is shown in Figure 77; it belongs to Mrs. Brownell of Providence, R. I. It is a handsome clock, and the large weights run in the columns at the side.

OLCOTT CHENEY

Another Connecticut clockmaker whose clocks are still to be found in considerable numbers is Olcott Cheney. He made the popular pillar and scroll clocks with which we are so familiar, and a good example of his work is shown in Figure 78. It is a thirty-hour wood clock, the case of mahogany, and though the pillars at the side are handsomely carved the eagle looks like the work of a 'prentice hand.

The paper inside this clock says "Middletown, Conn.," but in 1832 Olcott Cheney advertises from Berlin, Conn. This clock belongs to Mr. Richard H. Maunders, Great Barrington, Mass.

Another interesting old clock is shown in Figure 79. It has no name on the face, but on a paper pasted within the door is this history:

> This clock was made to the order of my grandfather, Eli Todd by Mr. Platt of New Milford, Conn. in the year 1793. It came into my possession in July 1863.
>
> CORNELIA BOARDMAN HARTWELL HUBBARD.

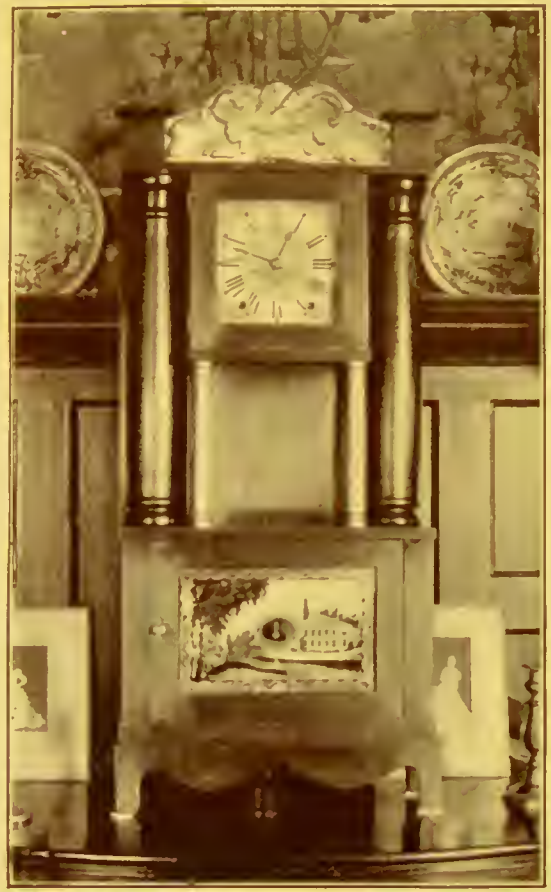
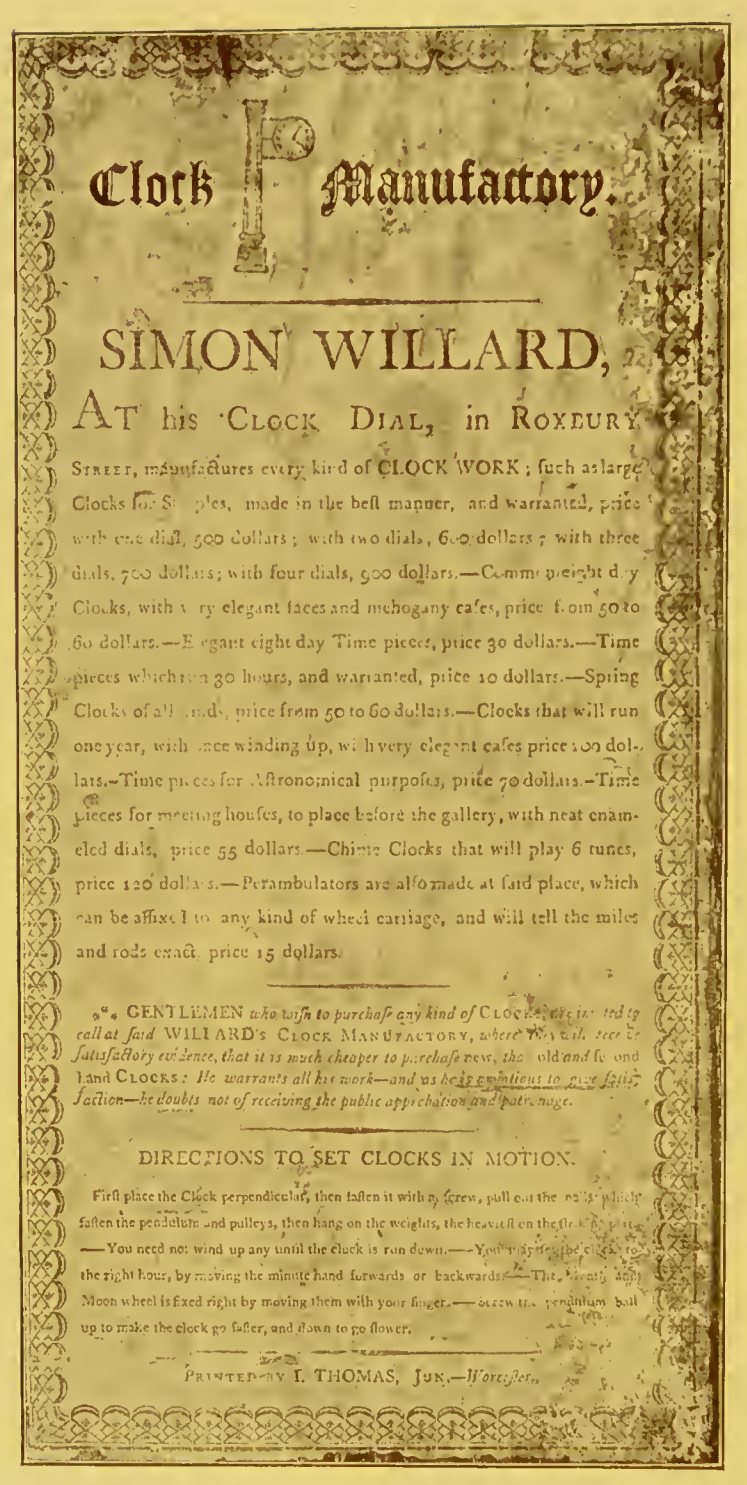


Fig. 77. E. and G. Bartholomew Clock

Fig. 79. Platt Clock

Fig. 78. Olcott Cheney Clock



Clock Manufactory.

SIMON WILLARD,

AT his CLOCK DIAL, in ROXBURY STREET, manufactures every kind of CLOCK WORK; such as large Clocks for Steeples, made in the best manner, and warranted, price with one dial, 500 dollars; with two dials, 600 dollars; with three dials, 700 dollars; with four dials, 900 dollars.—Common weight day Clocks, with very elegant faces and mehogany cases, price from 50 to 60 dollars.—Elegant eight day Time pieces, price 30 dollars.—Time pieces which run 30 hours, and warranted, price 10 dollars.—Spring Clocks of all kinds, price from 50 to 60 dollars.—Clocks that will run one year, with once winding up, with very elegant cases price 100 dollars.—Time pieces for Astronomical purposes, price 70 dollars.—Time pieces for meeting houses, to place before the gallery, with neat enamelled dials, price 55 dollars.—Chime Clocks that will play 6 tunes, price 120 dollars.—Perambulators are also made at said place, which can be affixed to any kind of wheel carriage, and will tell the miles and rods exact, price 15 dollars.

*** GENTLEMEN *who wish to purchase any kind of* CLOCKS, *are invited to call at said* WILLARD'S CLOCK MANUFACTORY, *where they will see the satisfactory evidence, that it is much cheaper to purchase new, than old and second hand* CLOCKS: *He warrants all his work—and as he is ambitious to give satisfaction—he doubts not of receiving the public approbation and patronage.*

DIRECTIONS TO SET CLOCKS IN MOTION.

First place the Clock perpendicular, then fasten it with a screw, pull out the nails which fasten the pendulum and pulleys, then hang on the weights, the heaviest on the clock's right hand. —You need not wind up any until the clock is run down.—You may set the clock to the right hour, by moving the minute hand forwards or backwards.—The Month and Moon wheel is fixed right by moving them with your finger.—Screw the pendulum ball up to make the clock go faster, and down to go slower.

PRINTED BY I. THOMAS, JUN.—*Worcester.*

Fig. 80. WILLARD ADVERTISEMENT

This clock which belonged to my mother, C. B. H. H., was on my wedding day given to me on account of my name, and brought to Rochester.

SOPHIE TODD HUBBARD EVEREST.

February 1st, 1888.

This clock is still in going order, and has never been out of the possession of the family for whom it was made. It belongs to Mrs. Charles Everest, of Rochester, N. Y.

MASSACHUSETTS CLOCKMAKERS

THE WILLARDS

The most famous name among clockmakers of Massachusetts was Willard. Benjamin Willard was born in Framingham, Mass., in 1716. He had one of those good old-fashioned families of twelve children. Three of his sons, Benjamin, Jr., Simon, and Aaron, all became famous as expert clockmakers. Their first clocks were made about 1765 or somewhat earlier. In the *Boston Evening Post* of December, 1771, Benjamin, Jr., advertises his "removal from Lexington to Roxbury and that he will take care of clocks purchased of him or of his workmen at Grafton where clocks are made as well as at Roxbury. He will sell house clocks neatly cased cheaper than imported. He hopes this and other kind of mechanical performances may be encouraged as large sums of money had been sent abroad which might have been retained to the emolument of this country."

In 1774 Benjamin Willard, Jr., also advertised as follows, in the *Massachusetts Spy:*

"Musical Clocks

"to be sold

"A number of Musical Clocks which play a different Tune each Day in the Week, on Sunday a Psalm Tune. Enquire of

"Benjamin Willard,

"Clock and Watch Maker in Roxbury-street, near Boston. Where all Sorts of Clocks are made in the newest form and warranted to measure Time without Variation, and to go many Years without cleaning. Also Clock-Cases made at the same place in Various Forms, and in the best Manner, and cheaper than can be purchased in London, and conveyed with Clocks to any Part of the Country. N. B.—Said Willard likewise informs, that all Branches of this Business are carried on at his Shop at Grafton."

Benjamin Willard, Jr., was born at Grafton, Mass., March 19, 1743. He was the first member of this family to take up clock-making, and his clocks are marked Grafton, Lexington, or Roxbury. He died in Baltimore, Md., 1803.

Of the three brothers Simon was by far the most noted and undoubtedly the best clockmaker. He remained at Roxbury till his death in 1848, and he left a son of the same name still in the business. He advertised very little, but relied on his clock papers, one of which is shown in Figure 80.

"CLOCK MANUFACTORY

"SIMON WILLARD

"At his Clock Dial in Roxbury street, manufactures every kind of Clock Work, such as large Clocks for Steeples, made in the best manner, and warranted, price with one dial, 500 dollars; with two dials, 600 dollars; with three dials, 700 dollars; with four dials, 900 dollars. Common eight day clocks with very elegant faces and mahogany cases, price from 50 to 60 dollars. Elegant eight day Time pieces, price 30 dollars. Time pieces which run 30 hours and warranted, price 10 dollars. Spring Clocks of all kinds, price from 50 to 60 dollars. Clocks that will run one year with once winding up, with very elegant cases price 100 dollars. Time pieces for Astronomical purposes price 70 dollars. Time pieces for meeting houses to place before the gallery, with neat enamelled dials, price 55 dollars. Chime Clocks that will play 6 tunes price 120 dollars. Perambulators are also made at said place, which can be affixed to any kind of wheel carriage, and will tell the miles and rods exact, price 15 dollars.

"Gentlemen who wish to purchase any kind of clocks are invited to call at said Willard's Clock Manufactory, where they will received satisfactory evidence, that it is much cheaper to purchase new, than old and second hand clocks; He warrants all his work—and as he is ambitious to give satisfaction—he doubts not of receiving the public approbation and patronage.

"Directions to set clocks in motion.

"First place the clock perpendicular, then fasten it with a screw, pull out the nails which fasten the pendulum and pulleys, then hang on the weights, the heaviest on the striking parts. You need not wind up any till the clock is run down. You may set the clock to the right hour, by moving the minute hand forwards or backwards. The Month and the Moon wheel is fixed right by moving them with your finger—Screw the pendulum ball up to make the clock go faster, and down to go slower."

Although the name of Willard is generally associated with that form of clock which has come to be known as "banjo," the clock paper just given shows that they made many other kinds. A fine long-case clock, marked Simon Willard, is given in Figure 81, which is owned in Salem, Mass., and is still in first-class condition. The case is very handsome with its carved fretwork on top, and the phases of the moon and the days of the month are both given. After moving from Grafton, about 1788, Simon Willard gave up the making of any style of clock except turret, gallery, church and hall clocks, and general repair work.

One of the earliest forms of Willard timepiece is shown in Figure 82. These were made as early as 1784, and the shape was one found in Massachusetts, made by a number of firms besides the Willards. This one is owned in Salem, Mass., and is a handsome time-

Fig. 81. Long-case Willard Clock

Fig. 82. Willard Shelf Clock

Fig. 83. Banjo Timepiece

Fig. 85. S. Mulliken Clock

Fig. 84. Banjo Clock

piece, as the Willards called those clocks which did not strike; the works of course are brass.

The banjo clocks, which are so much desired to-day, were only a small part of their business, which not only included all kinds of house clocks but church and turret clocks as well. The early form of banjo timepiece is given in Figure 83. This is the kind which was patented by Simon Willard in 1802 as an "improved timepiece." They vary much in ornamentation, the amount of brass used in decoration, and the ornament on the top, some of the cases being very heavy and clumsy, others exceedingly graceful. The eagle on the top of the timepiece shown in Figure 83 is exceptionally large and fine. It may be well to state here that in the interesting book just published by John W. Willard, called "Simon Willard and His Clocks," the author says that on the top of these "patent timepieces" Simon Willard used a wooden or brass acorn, or a ball, gilded, *never* the spread eagle.

The clock shown in Figure 84 is a striking banjo, and the case, of mahogany veneer, not at all pleasing. It has in place of the eagle on the top the striking gong, and is a useful and capable clock, though not as handsome as those we are used to associate with the name of Willard.

Aaron Willard, Jr., who made very fine long-case clocks with brass works, did not go into business till 1823, when he entered his father's shop. I recently saw a long-case mahogany clock with his name on the dial, brass works and keeping good time, offered for sale for $250, which was certainly reasonable. The

distribution of the Willard clocks was wide-spread. You find them, particularly the banjo, in all parts of the country, and most of them are still dependable timekeepers.

THE MULLIKENS

Newburyport, Mass., had a number of clockmakers who did excellent work. Samuel Mulliken was one of the best. He was born in Bradford, Mass., in 1720, came to Newbury in 1750. He built a house and shop and repaired as well as made clocks till his death in 1756. Jonathan, son of Samuel Mulliken, advertises as follows in the *Essex Journal and Merrimac Packet*, for May 25, 1774:

"Jonathan Mulliken Informs his customers and others that he still continues to carry on the clock and watch making business in all its branches at his shop near the Town House in Newburyport, where may be had the best of chimes or musical clocks playing seven different Tunes upon twelve bells. Eight day or common one day clocks equal to any imported from Great Britain."

Samuel Mulliken, Jr., son of John Mulliken, was born in 1761. He served an apprenticeship to Jonathan, his uncle, I fancy, and afterward married his widow. He was known in Newburyport till 1789-90, and he is probably the Samuel Mulliken who came to Salem, Mass., at about that time, and advertises that he will barter clocks for "English and West India Goods and country produce."

That he was an excellent clockmaker Figure 85 will show. The dial is of brass engraved and the case is mahogany. You will notice that the case is not unlike in shape that of the Willard clock shown in Figure 82, and which I find is confined to Massachusetts makers. At least I have never found one like this made in any other State, and I have found quite a number of them, only slightly varied, made in Massachusetts. This clock belongs to Mrs. H. P. Brownell, of Providence, R. I., who speaks of it with admiration. As Mrs. Brownell owns forty-eight or nine antique clocks, any one to attract special attention must have decided merits.

THE BALCH FAMILY

Daniel Balch, born in Bradford, Mass., in 1734, moved to Newbury, Mass., in 1757, and made and repaired clocks for thirty years. That some of his clocks are still owned in Newburyport and in going order, testifies to their excellence. He was one of those merchants who undertook more than one business, since one was hardly enough to take care of the large families of those days. His advertisement in the *Essex Journal and Merrimac Packet*, for January 5, 1774, reads as follows:

"GARDEN SEEDS.

"Early garden pease, beans, and seeds of all sorts: red and white Dutch clover and hemp-seed. Dried herbs, viz; sage, balm, marjoram, thyme, summer and

winter savoury etc. and all sorts of seeds suitable for the West Indies, to be sold at the Sign of the Clock, Newbury Port.

"At the same place may be had the best Eight Day Clocks and Watches, four-tuned Chime Clocks and c. made mended and repaired by Daniel Balch."

Two makers of chime clocks for a town so small as Newburyport, seems to indicate that the rich sea-captains and merchants who lived there wanted the best.

Daniel 2d, born 1761, and Thomas H., born 1771, were sons of Daniel 1st, and well-known makers of clocks, Thomas continuing in the business till 1818. A clock by him, now at the old Dalton House, Newburyport, is given in Figure 86. The picture shows its beauty, the finely engraved face with spandrels, the delicate hands, and the handsome case, which is seven feet one inch high, one foot six inches wide, and nine and a half inches deep.

Charles H. Balch, born 1787, a member of the same family, was a clock and watch maker of Newburyport, and his shop was on Merrimac Street, like those of his contemporaries. He was appointed superintendent of town clocks in 1817.

David Wood, born 1766, was also a clockmaker of Newburyport, and had a shop in 1792. He made those clocks of the "Massachusetts pattern," and one of them is given in Figure 87. This clock is not so good proportionally as those previously shown and of this

Fig. 86. Daniel Balch Clock

Fig. 87. David Wood Clock

Fig. 88. Clock in the Old North Church, Boston, Mass.

style. It looks more like a long-case clock cut down. It is thirty-three inches tall, eleven wide, and five and a quarter deep, and is owned by the Dalton Club and is at their house in Newburyport. David Wood was in business many years, for as late as 1824 he advertises, "new and second hand clocks for sale."

PAINE WINGATE made and repaired clocks in 1803 in his shop in Merrimac Street, Newburyport, Mass.

NATHANIEL FORSTER opened a shop in the same town, on State Street, in 1818, from which he advertises that he carries on the "clock and watch-making business in all its branches."

BOSTON CLOCKMAKERS

There were many clockmakers in Boston and its vicinity, and much good work came from their shops. The earliest one of whom I find any record was WILLIAM DAVIS, who came to Boston in 1683, and owing to the size of his family and his lack of funds he was obliged to find some one to go surety for him. David Edwards accepted his pledges and became surety that neither he nor his family would become charges on the town.

JAMES BATTERSON was another early maker, Boston, 1707-30. GAWEN BROWN was another well-known Boston maker, and a "MR. AVERY," 1726, made the clock which hangs in the Old North Church of Paul Revere fame. A photograph of this clock is shown in Figure 88. The church itself makes a most picturesque setting for the old clock, and was built in 1723

from a design, so it is said, by Sir Christopher Wren. The bells, among the first sets sent to this country, were cast in 1744 by the famous Abel Rudhall of Gloucester, England, and still preserve their sweet tones. Each of the eight has an inscription; on the third one is this: "We are the first ring of bells cast for ye British Empire in North America. Anno 1744, A.R."

The interior of the Old North Church preserves in general its original appearance. The organ was put in position in 1759. The four quaint carved figures in front of the organ were the spoils of the "Queen of Hungary," a privateer under command of Captain Grushea, who took the figures from a French vessel in 1746. They are fine specimens of Spanish art.

The clock itself, much in shape like the "Act of Parliament" clocks, was put in front of the gallery in 1726, and cost £22. It is still a good timekeeper, its tick-tock resounding through the quiet church. Mr. Croswell, once a rector of the church, used to sleep in a room off the gallery, and has left his record of the clock:

> To know that in the lofty room
> I was the only living guest—
> The ticking of yon ancient clock,
> That marks the solemn tread of time,
> Against my heart-strings seems to knock.

The dial of the clock has been repainted. The long body of the case is made necessary by the seconds pendulum. This clock is only one among a score of interesting ones to be found in the city of Boston.

Although the bells of the Old North Church were sent from England, and doubtless those of many other meeting-houses, the following advertisement from the *Boston Gazette and Country Journal,* for May, 1770, shows that the need of a bell-foundry was appreciated:

"Erected by Henry Crane of Stoughton, by the assistance of a Bell-founder from England, but last from Philadelphia, where Peals of Bells are cast of any size for Churches, Bells for Meeting Houses from 100wt. to 6 or 7 Tons, School-House and Ship Bells of all Sizes, Bells for Clocks and Chime bells of any Dimensions. This being a new Branch of Business in this Province, said Crane hopes he may meet with public Encouragement; and he will engage to make them as good as any imported and much cheaper."

THE BAGNALL FAMILY

Another distinguished Boston clockmaker was BENJAMIN BAGNALL, who had a shop at Cornhill near the Town House in 1770. A splendid long-case clock by him is shown in Figure 89. This clock is the gift of Mrs. Russell Sage to the Metropolitan Museum of Art, New York.

The maker of it was the son of Benjamin Bagnall of Charlestown, Mass., who was at work from 1712 to 1740. Samuel Bagnall, son of this same Benjamin Bagnall of Charlestown, was also an expert clockmaker, and worked in Boston from 1740 to 1760.

THE POPE FAMILY

The Popes, Robert and Joseph, were also men well known in their trade at Boston. In the *Massachusetts Centinel* for Saturday, April 29, 1786, there is this advertisement:

"Robert Pope, Clockmaker, Orange street, South-end, Boston, makes Chime and plain clocks, Time-pieces, etc. of various constructions, warranted to be equal to any and far superior to many imported from Europe. Table clocks either chime or plain. Clock and Watch springs warranted as above, spiral springs of almost any size, spring saws, spring trusses etc."

In the *Columbian Centinel,* August 7, 1790:

"Joseph Pope Respectfully informs his friends and the publick, that he has lately returned from London, and now carries on the Clock and Watch-Makers business in their different branches, at No. 49 Marlborough Street, a few doors north of Seven Star Lane. Has neat silver watches for sale."

D. F. Lanny, watch and clockmaker "late from Paris," had a shop at 21 Marlborough Street in 1789. In 1790 Lanny advertises in the *Columbian Centinel* as follows: "Wanted, a Lad about 14 years of age as an Apprentice to the Watch-makers' Business. Inquire at No. 21 Marlborough St."

Sawin and Dyer, settled in Boston, made very choice wall clocks as the Lyre clock in Figure 90 shows. They were at work from 1800-20, and of course made other designs as well. This clock is at the Metropoli-

Fig. 89. Long-case Bagnall Clock

Fig. 90. Sawin and Dyer Clock

Fig. 91. Daniel Munroe Clock

Fig. 92. Samuel Whiting Clock

Fig. 93. Munroe and Whiting Clock

ton Museum of Art, New York, the gift of Mrs. Russell Sage.

In the *Massachusetts Centinel* for December 12, 1789, is the advertisement of "RICHARD CRANCH, Watch-maker, who before the war carried on the business near the Mill-Bridge in Boston, hereby informs the publick that he now, after an interruption of several years, carries on the same business in Braintree, a few miles south of Boston."

In 1790 ISAAC TOWNSEND of 27 Cornhill, Boston, made gold and silver watches, clocks, "elegant watch chains, seals, keys, trinkets and glasses."

JOHN DEVERELL, "next door to the Treasury," sold watches and clocks and advertises in 1790, "very neat, new, silver watches for 16 dollars. All kinds of gold silver and engraving Work executed in the neatest and best manner."

THE MUNROE FAMILY

In Concord, Mass., where we always look for superior merit, were several distinguished clockmakers. The two Munroes, Daniel and Nathaniel, made fine clocks from 1800 to 1808. Nathaniel Munroe, born 1777, died 1861, was in business in Concord by 1800, after serving an apprenticeship with Abel Hutchins of that town. Just where and when Daniel his elder brother served his apprenticeship I have not discovered, but in 1808 Daniel removed to Boston, while Nathaniel remained in Concord till 1817, when he went to Baltimore. The latter part of the time Nathaniel was in Concord he was in partnership with Samuel Whiting,

under the firm name of Munroe & Whiting. They did a large business, chiefly in eight-day clocks, and they had seven or eight apprentices and journeymen. Nathaniel also had an extensive brass foundry where he made bells, clock movements, etc.

A fine shelf clock by Daniel Munroe is given in Figure 91. It belongs to Mrs. Brownell of Providence, R. I., whose collection has already been drawn on for illustration. She says it is an admirable timekeeper.

Samuel Whiting, Nathaniel Munroe's partner, also worked for himself, subsequently to 1817, and in Figure 92 is shown an excellent clock by him. The clock in Figure 93 is by Munroe & Whiting.

The miniature clock shown in Figure 94 is a part of Mrs. Brownell's collection, but there is no name of maker. The case has painted decoration, and the clock stands about four feet high. I saw recently in an English book, "Furniture Decoration," that these miniature clocks were sometimes called "Grandmother Clocks," since they were short enough for women to wind up! This is the first time I ever have seen or heard the term, and fancy it was original with the writer.

Rhode Island Clockmakers

Rhode Island was far less noted for her clockmakers than Connecticut or even Massachusetts. For many years she imported such timekeepers as she used, and is credited, between the years 1686 and 1708, with having ten English clocks, all of which were owned

Fig. 94. Miniature Clock

Fig. 95. Rittenhouse Clock

Fig. 96. Souers Clock

Fig. 97. John Child Clock

in the small district of Narragansett, and were imported from the Barbadoes.

In Providence SERIL DODGE was working at his trade of clock and watch maker 1788. The bulk of his business was that of a silversmith, the two trades often being combined. His place of business is described as "two doors north of the Baptist Meeting House." He was one of the apprentices of Thomas Harland at clockmaking at Norwich, Conn. He built two houses, one of which was known later as the "Doctor Wheaton House," and the other was owned by Obadiah Brown. It was said at the time that they were paid for in silver buckles, such quantities of these were turned out from his shop. Mr. Dodge moved to Pomfret, Conn., and died there April 22, 1802.

NEHEMIAH DODGE followed both the clockmaking and silversmith trades, also. He kept a shop on North Main Street in 1796. He moved in 1798 to a shop "Two doors north of the Baptist Meeting House, directly opposite Mr. Barker's Inn," the shop vacated by Seril Dodge when he moved to Pomfret.

In 1799 Nehemiah was associated with Mr. Stephen Williams, "opposite Mr. Haws' Inn, Main Street." This partnership was of short duration, for by 1800 Mr. Williams was doing business by himself in a shop on Main Street, nearly opposite Governor Fenners. Mr. Dodge made, besides clocks and watches, "gold necklaces, knobs and twists, gold rings, miniature case fancy jewelry, and all kinds of silverware." He moved again shortly, this time to a shop opposite the "Nathan Angell tavern," and General Josiah Whitaker became

his partner. In 1803 Mr. Dodge became a member of the Mechanics' Association. On his retirement from active business he sold his interest to Mr. George Dana and Thomas Whitaker.

John Cairns, who had a shop near St. John's Church and "next door to Mr. Saunders Pitman's" in 1784, was the only man of his time who made watches entire. He advertised that he made watches "of any fashion required for $25 warranted for two years without expense except in case of accident." Some of his watches are still to be found in going order. He was "accidentally drowned one dark night by falling into the Moshassuck between Mill and Shingle Bridges."

Caleb Wheaton in 1784 did business at No. 83 North Main Street, and as he was an excellent clockmaker some specimens of his work are still in running order. He was a member of the Society of Friends and died in 1827 at the age of seventy.

Calvin Wheaton had a shop in 1790 opposite Governor Fenner's. In 1791 he moved to the shop in the house of Ambrose Page, Esq., "at the Sign of the Clock, directly opposite the Friends Meeting House." Other Providence names are given in the list at the end of the book.

Pennsylvania Clockmakers

The name of Rittenhouse is the most distinguished one connected with the history of clockmaking in Pennsylvania. David Rittenhouse was a genius and

carried to perfection whatever mechanical construction he attempted. Born in 1732, April 8, at Germantown, near Philadelphia, he worked upon his father's farm till he was nineteen years old. Then he went to Norriton, where later there were many clockmakers, and established himself at that trade. He made very accurate and fine timepieces, occasionally amusing himself with some very intricate mechanical clock like the one already mentioned. An excellent example of one of his long-case clocks is shown in Figure 95. It was made about 1760 and is at the Pennsylvania Historical Society in Philadelphia. It is in a mahogany case, plain but dignified, and in going order. There is also a clock by him at the Philosophical Society in Philadelphia, in a case painted white.

Clockmaking was just a step in the career of Rittenhouse, for while still busy with timepieces he also made mathematical instruments. In 1770 he completed an orrery on an improved method invented by himself. In 1768 he had been made a member of the American Philosophical Society, and in 1769 he made an observation of the transit of Venus.

He was treasurer of Pennsylvania from 1777 to 1789; was professor of astronomy in Pennsylvania University from 1779 to 1782; was director of the United States Mint at Philadelphia, 1792-95. From 1790 until his death in 1796 he was president of the American Philosophical Society, and in 1795 he had been elected an honorary fellow of the Royal Society of London.

Another distinguished Philadelphian who combined

clockmaking with other and perhaps more distinguished pursuits, was CHRISTOPHER SOWER. He was born in Germany in 1693. He came to Philadelphia in 1724, but removed to Germantown in 1731. He was an uncommonly gifted man, proficient in all his various callings, and sufficiently distinguished to have left a record in any. He had graduated in medicine at Halle before he came to this country, and always kept up his profession. After moving to Germantown he conducted a large and successful farm, and not finding the two pursuits, medicine and farming, enough, he added a third and fourth. These were paper-making and book printing. He wrote many learned treatises in German and English, and for these his reputation is more extended than for any other of his works.

He spelled his name in these more learned callings Sower. When it came to clocks he seemed to feel that the scholar should not be connected with anything so mechanical, so on these tall eight-day timepieces he spelled his name Souers. They are fine clocks and excellent timekeepers, and he might well have been proud of them. The one shown in Figure 96 belongs to the Library Company, Philadelphia.

Not only was this man author, printer, doctor, farmer, and clockmaker, but he found time to turn his attention to even lesser affairs, and to him is given the credit of inventing cast-iron stoves. He was Jack of all trades and proficient at each.

Another distinguished maker of clocks in Pennsylvania was EDWARD DUFFIELD. He was born in Philadelphia County, Pa., in 1720. He was a particular

friend of Benjamin Franklin, and his executor. He worked at the trade of clockmaking in Philadelphia from 1741 to 1747. When his shop was at the northwest corner of Second and Arch streets he was much annoyed by people stopping and asking the time. At that date few persons carried watches, relying on the public timepieces. At length Duffield hit upon the expedient of making a clock with a double face so as to show north and south at once. This clock he projected out of his second story window, and he is on record as having made the first standard clock of Philadelphia.

In 1747 Duffield moved to Lower Dublin and continued to work there, and he died there in 1801. He was an excellent clockmaker, his long-case clocks with brass works still being good timekeepers. One of these long-case clocks of his is at the Philosophical Society in Philadelphia. It was made for them in 1768, and for a long time was their only timepiece.

In 1785 the city directory of Philadelphia gives the names of nineteen clock and watch makers. Ten years later there were twenty-five members of the trade settled there, and actively at work.

In May, 1835, a letter was received by the Library Company from JOHN CHILD, a well-known Philadelphia clockmaker, offering to sell them a clock with an alarm arranged to ring at sundown. It was intended to have it take the place of an ancient clock which had been destroyed by fire in 1831. The clock is now placed in the gallery of the Library Company and is an excellent timekeeper. It is shown in Figure 97.

The old clock which this one replaces stood in the

Loganian Library. It was remarkable from the fact that it struck the sunset hour, which was the time for closing the library. This hour was computed by a mechanical contrivance and marked by the clock. The original clock was made by Rittenhouse, and in Matthew Carey's "Traveller's Pocket Companion," published in 1804, is mentioned as follows: "The clock gives notice by ringing an alarm every evening at the setting of the sun and winds itself up at the same time."

The names of many Pennsylvania clockmakers are given in the list at the end of the book, with such items as could be gleaned about them.

But while the cities were supposed to be in advance in the trade and manufactures, the country clockmakers at least were not far behind. In Figure 98 is shown as elegant a clock as one could wish, made by TIMOTHY CHANDLER, Concord, N. H., who was at work there between 1785 and 1840. This clock belonged to Gov. Benjamin Pierce, the father of General Pierce. The movements of the sun and moon and the days of the month are shown on the face. The works are brass, the case maple with mahogany trimmings and inlay of satinwood. There are brass ornaments on the top and the clock is a good timekeeper. It is owned by Mrs. C. F. M. Stark, of Concord, N. H.

Another New Hampshire clock is shown in Figure 99. This one was made by LUTHER SMITH, Keene, N. H., and is of about the same period as the previous one.

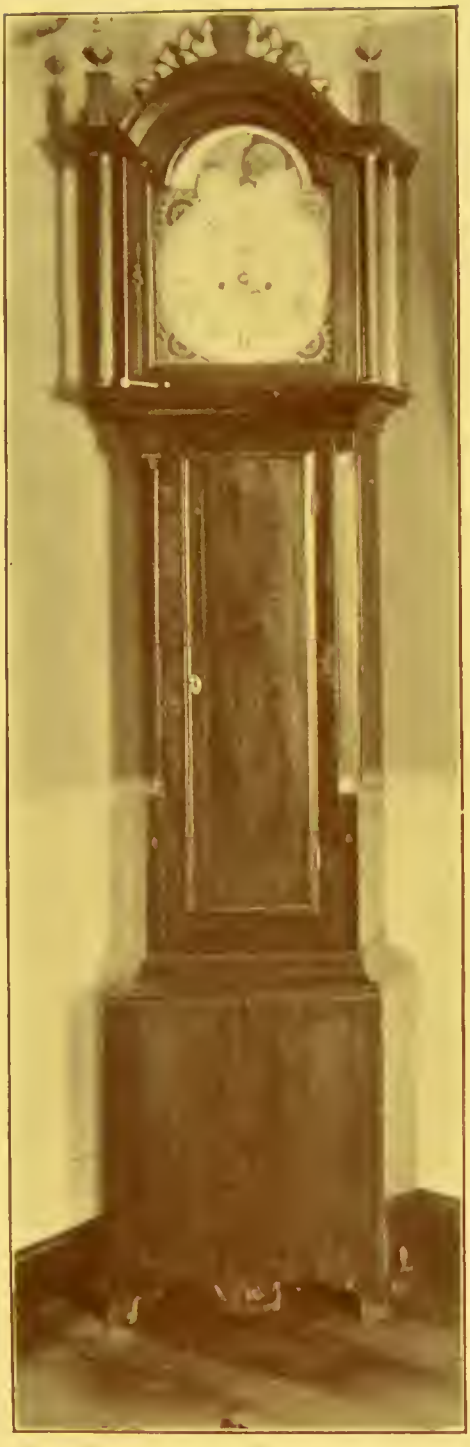


Fig. 98. Timothy Chandler Clock

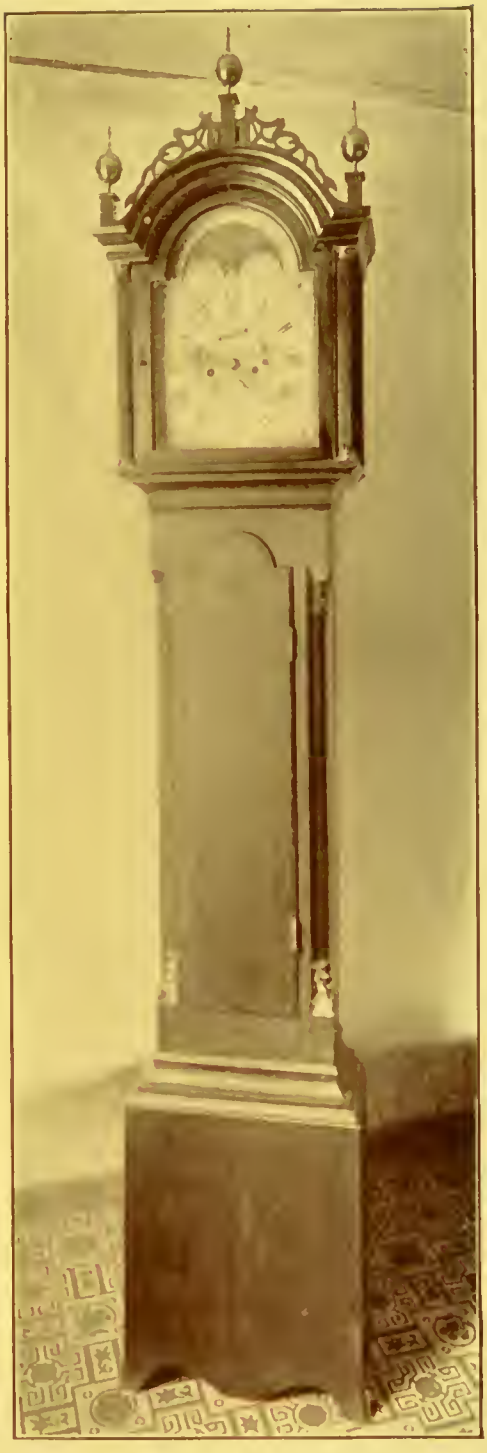


Fig. 99. Luther Smith Clock

Fig. 100. "Owen"

Fig. 101. "Maker Unknown"

The clock in Figure 100 is marked "OWEN," Philadelphia, also of about the same period, but so far I have not been able to discover any details about this maker.

As in old china, a great many clocks interesting and good timekeepers must come under the head of "makers unknown."

Figure 101 shows a fine unmarked clock, of the shelf variety, with quaintly decorated dial and large looking-glass. It belongs to the collection of Mrs. Brownell. It has the peculiarity of opening on the side instead of the front.

A miniature clock with engraved brass dial, also belonging to Mrs. Brownell, is given in Figure 102. The dial has an unusual shape, and it seems as if it were choice enough for the maker to be glad to add his name. Although nameless it is a good clock, an accurate timekeeper, and it shows for itself that it is a desirable clock.

In Figure 103 is given an "acorn clock" made by the FORESTVILLE MANUFACTURING CO. at Bristol, Conn., probably about 1830. It was most highly prized by its late owner on account of its excellent timekeeping qualities and its unusual mahogany case.

As the American shelf clock is more often found than any other kind, and as they are always loved by collectors of old things, it may not be amiss to close this record with the group shown in Figure 104.

The central clock, which was made by Ephraim Downs, Bristol, Conn., about 1830, is admirable in every way. The one with the carved pineapples on top

was from the shop of Chauncey Ives, Bristol, Conn., 1827-36. The last one is by the well-known maker Seth Thomas, and is of the same period.

DIRECTIONS FOR KEEPING CLOCKS IN ORDER

The most necessary thing to keep a clock in running order is to have it plumb. This does not mean setting the case on a level by trueing it up, but placing it so that the beats or sounds of the wheel teeth striking the verge are equal—that the vibrations are equal, in fact.

When a clock stops you should see if the shelf has warped or sprung so that the clock has got out of beat, and the verge does not hold the wheel-teeth.

Another important point is to see that the rod hangs in the centre of the loop in the crutch wire which is connected with the verge, for if it rubs the front or back end of the loop the friction will cause it to stop. Set the clock case a little backward or forward as may be needed and this will be prevented. If the crutch wire gets bent or misplaced so that it rubs against the dial, this will cause the clock to stop. The least impediment of this kind will cause a clock to stop.

Sometimes a dial warps so that the sockets of the hands rub, and this many times causes a clock to stop. It may be remedied by paring off the centre of the dial on the side required.

Soft verges are another cause of a clock's stopping.

Fig. 102. Miniature Clock

Fig. 103. Acorn Clock

Fig. 104. Group of Shelf Clocks

The teeth will dent into the face of a verge and cause a roughness which brings the clock to a stop. The verge should be so hard that it cannot be cut with a file. They should be polished nicely, the lines of the polishing going parallel with the verge, for if they go at right angles they will cause a roughness and might cause the clock to stop.

If a clock creaks do not suppose it to be dry. The noise comes from the loop of the crutch wire touching the rod; a drop of oil will remedy it. Do not have your clock cleaned or oiled too often. If you see any signs of your clock stopping, like a faint beat, or if on a very cold night they stop, take the dial off, and the verge from the pin, wipe the pin the verge hangs on, the hold in the ears of the verge, and the pieces which act on the wheel; also the loop of the verge wire where it connects with the rod, and the rod itself where the loop acts.

Previous to taking off the verge, oil all the pivots in front; let the clock be wound up about half way, then take off the verge, and let it run down as rapidly as it will to run out the gummy oil; then wipe off the black oil that has worked out and it is not necessary to add any more to the pivots. Then oil parts as above described connected with the verge, and be very sparing of the oil, for too little is better than too much. Never use anything but watch oil. The best watch oil is made from porpoise jaw.

It may be necessary occasionally to oil the pulleys on the top of the case which the cord passes over. If this

is not done the hole becomes irregular and part of the power is lost to the clock.

These directions apply to the old-fashioned clocks referred to in this book, and have been condensed from directions given by Chauncey Jerome.

LIST OF ENGLISH CLOCK-MAKERS

LIST OF ENGLISH AND CONTINENTAL CLOCKMAKERS

This list has been formed from the Books of the Clockmakers' Company in London, from the list arranged by Octavius Morgan, Esq., and published in the Archæological Journal, from Catalogues of Sales in London and the United States, from Catalogues of Collections in many parts of the world, from existing collections private and public, and from the dials of many clocks and watches personally examined, or sent by their owners.

The dates in many cases refer to the time when the member was admitted to the Clockmakers' Company. In some cases it was possible to trace the name through directories, and through the records of the Company, or by finding, in the case of watchmakers, the date letter on the cases.

The number of English clocks in the United States is very large; many of them are still in going order and objects of pride to their owners.

Thanks are due to the numerous persons interested in the subject who have given us assistance, and to the owners of private collections who have allowed their inspection.

LIST OF ENGLISH CLOCKMAKERS

A

Abbott, John Q. London. 1787-1800. Was tried and convicted for having made an agreement to go to Russia to follow his trade. Made long case clocks veneered and inlaid with marquetry.

Abbott, John I. London. 1740. Son of Peter.

Abbott, Peter. London. 1719.

Abbott, Philip. London. Clockmakers' Company. 1703.

Abrahams, H. London. 1800-16.

Achard, George et Fils. Geneva. Late eighteenth century. Repeating watches in jewelled and enamelled cases.

Ackers, W. London. 1700.

Acott, William. London. Clockmakers' Company. 1794. Southgate, Middlesex.

Acton, Abraham. London. Clockmakers' Company. 1709.

Acton, Thomas. London. 1677. Of Clerkenwell.

Adams, Francis Bryant. London. 1808-49. Warden 1845, 46, 47. Master 1848, 49. St. John's Square.

Adams, Francis Bryant, Jr. London. Clockmakers' Company. 1828-42. St. John's Square.

Adams, George. London. Clockmakers' Company. 1829. St. John's Square.

Adams, James. London. 1832-57. Warden 1848, 49, 50, 51, 52, 53. Master 1854, 57. St. John's Square.

Adams, J. London. 1843.

Adamson, Humphrey. London. 1668-82. Made a clock for Charles II.

Adamson, John. London. Clockmakers' Company. 1686.

Addis, George Curzon. London. Clockmakers' Company. 1780-96. Birchin Lane, Cornhill, later at Lombard Street. Clockmakers' Company. 1786. Livery, 1787.

Addis, Robert. Bristol. 1720.

Addis, William. London. 1745-66. Warden 1761, 62, 63. Master 1764. Put on livery 1766. Son of Robert Addis.

Addis, William. London. 1781.

Addison, T. Liverpool. 1750.

Addison, Joseph. London. 1775.

Adeane, Henry. London. Clockmakers' Company. 1675.

Adeane, Henry, 2. London. Clockmakers' Company. 1705.

Adlington, John. London. Clockmakers' Company. 1806. Gutter Lane.

Agar, John, Sr. York. 1741. Maker of tall clocks veneered with curly mahogany, or of English walnut inlaid with marquetry.

Ahns, J. Derby, England. 1750.

Aickin, G. Cork, Ireland. 1750-86.

Aitchison, Robert. Edinburgh. 1756-80.

Aitken, George. Edinburgh. 1781.

Aitken, John. Edinburgh. 1750.

Aitken, John. London. 1810-25.

Aitken & Son. Cornwath, Scotland. 1800-50.

Alais, M. Blois, France. -1700.

Albert, Isaac. London. Clockmakers' Company. 1731.

Albino, Agostin. Madrid, Spain. 1806-13.

Albrecht, Z. Michau Georg. 1714. Maker of a very handsome gold watch which belonged to George I., bought for the collection at Marlborough House at the Bernal sale, 1855.

Alcock, Elias. London. 1650-75.

Alcock, George. London. 1770-83.

Alcock, James. London. 1790.

Alcock, John, 1. London. 1650-70.

Alcock, John, 2. London. 1720.

Alcock, John, 3. London. 1772-75.

Alcock, Thomas. London. 1632-55. Junior Warden 1645. Senior Warden 1646.

Alcorn, Richard. Edinburgh. 1703.

Alderman, Edwin. London. Clockmakers' Company. 1822-34. Barbican.

Aldred, Leonard. London. Clockmakers' Company. 1671. A great clockmaker.

Aldridge, John. London. Clockmakers' Company. 1726.

Aldworth, Samuel. London. Clockmakers' Company. 1697.

Alexander, J. London. 1750.

Alexander, John. Edinburgh. 1667. One of the earliest of Scottish clockmakers.

Alexander, Robert. London. 1708. Son of John. His trial work was an eight-day pendulum clock, and lock and key, for at this time the clockmakers were associated with locksmiths.

Alexander, William. Glasgow. 1840.

Alibut, ——. Paris. 1750.

Alisone, James. Edinburgh. 1641.

Allam, Andrew. London. Clockmakers' Company. 1664.

Allam, ——. London. Clockmakers' Company. 1743.

Allam, John. London. 1798.

Allan, James. Aberdeen. 1846.

Allan, W. London. 1750-85.

Allaway, John. London. Clockmakers' Company. 1695.

Allen, Elias. London. 1633-55. Warden 1635. Master 1636.

Allen, George. London. 1781. Honorary Freeman.

Allen, John. London. Clockmakers' Company. 1653.

Allen, John. London. Clockmakers' Company. 1720.

Allet, George. London. Clockmakers' Company. 1691.

Alling, Richard. London. Clockmakers' Company. 1722.

Allmand, William. Lothbury. 1700.

Allsop, Joshua. Northumberland. Clockmakers' Company. 1689. A great clockmaker.

Allsop, J. London. Probably Joshua named above. Maker of a japanned-case clock now belonging to Mrs. J. Ten Eyck, Albany, N. Y.

Almond, John. London. Clockmakers' Company. 1671.

Almond, Ralph. London. Warden 1675, 76, 77. Master 1678.

Almond, William. Lothbury. 1633.

Alston, John. Edinburgh. 1811.

Amalric, Frères. Paris. 1750.

Ambrose, David. London. Clockmakers' Company. 1669.

Ambrose, Edward. London. 1634. Apprentice of Elias Voland.

Ames, Richard. London. 1653-81. Warden 1677, 78, 81. Chosen master but died before he was sworn in.

Ames, William. London. Clockmakers' Company. 1682.

Amyot, Peter. Norwich. 1720.

Amyott, Thomas. London. 1770.

Ancrum, Thomas. Edinburgh. 1703.

Anderson, Charles. Aberdeen. 1700.

Anderson, Samuel Thornton. London. Clockmakers' Company. 1811. Holborn.

Anderton, John. London. 1760. Little Wild Street.

Anderton, John. London. Clockmakers' Company. 1826. Commercial Road.

Andervalt, Pasquale. Trieste, France. Maker of a hydrogen gas clock.

Andrews, E. London. 1812.

Andrews, James. London. Clockmakers' Company. 1719.

Andrews, John. London. Clockmakers' Company. 1688.

Andrews, Thomas. London. 1750. Maker of a silver double-case watch, in Proctor collection.

Andrews, Richard. London. Clockmakers' Company. 1703.

Andrews, Robert. London. Clockmakers' Company. 1709.

Andrews, Thomas. London. Clockmakers' Company. 1705.

Andrews, William. London. Clockmakers' Company. 1719.

Angely, Jehan. Paris. 1700.

Angely, ——. Paris. 1686.

Angoville, ——. Paris. 1680.

Aniht, ——. London. 1750.

Anness, William. London. Clockmakers' Company. 1802-20. Cheapside.

Ansell, George. London. Clockmakers' Company. 1796-1821. Whitecross Alley Moorfields 1820 was at Whitecross Street, Wilson Street, Finsbury Square.

Ansell, Richard. London. Clockmakers' Company. 1680.

Antes, John. London. 1787.

Antram, Joshua. London. 1712. Maker of long-case inlaid clocks, of mahogany or walnut.

Antrim, Joseph. London. 1720. Watch and clock maker to His Majesty King George.

Apelyne, Francis. London. Clockmakers' Company. 1687. A Frenchman settled there.

Appleby, Edmund. London. Clockmakers' Company. 1677.

Appleby, Joshua. London. 1719-45. Warden 1742, 43, 44. Master 1745. An apprentice of Daniel Quare.

Applegarth, Thomas. London Clockmakers' Company. 1674

Archambo, John. London. 1730. Maker of long-case clocks, mahogany veneered or inlaid walnut.

Archer, Edward. London. Clockmakers' Company. 1711.

Archer, Henry. London. 1630-50. Was first Senior Warden of the Clockmakers' Company.

Archer, John. London. Clockmakers' Company. 1660.

Archer, Walter. London. 1715.

Archereque, —. London. 1775.

Argand & Salomon. France about 1780. Makers of a fine gold watch with case enamelled and set with diamond sparks. In the Robert Hoe collection, New York.

Ariell, James. London. Clockmakers' Company. 1811-30. Wilderness Row, Goswell Street.

Ariell, John. London. 1820-35. Percival Street.

Ariell, Samuel. London. Clockmakers' Company. 1823. Holborn Hill.

Arlaud, Antoine. Paris. 1560.

Arland, Benjamin. London. 1680.

Armstrong, John. London. Clockmakers' Company. 1724.

Arnold, John. London. Born 1744, died 1799. He was a celebrated maker of chronometers, and in 1764 he made

the smallest repeating watch ever attempted, which he gave to George III. It was set in a ring, and so pleased the king that he gave the youth 500 guineas. He patented in 1775 cylindrical spiral springs, 1782 the epicycloid scapewheel, was admitted to Clockmakers' Company 1783, and elected to the livery 1796. His son, J. R. Arnold, received £5,000 from the Board of Longitude for improvements made by his father in chronometers. Died 1799 at Well Hall, near Eltham, Kent, and was buried at Chislehurst.

Arnold, John, & Son. London. 1795.

Arnold, John R. London Clockmakers' Company. 1796-1817. Warden 1813, 14, 15, 16. Master 1817.

Arnold, John Roger. London. Clockmakers' Company. 1804-30. Cornhill. Put on livery 1807.

Arnold & Dent. London. 1820.

Arnold, Thomas. London. Clockmakers' Company. 1703.

Arnot, Thomas. Edinburgh. 1723.

Arsandaux, ——. Paris. 1780. Maker of a splendid Louis XVI. clock, which brought £399, at Christie's, 1908.

Arthaud, Louis à Lyon. Eighteenth century.

Arthern, J. Northbridge, England. 1770.

Arthur à Paris. Early eighteenth century "Arthur, un des plus renommés et des plus à la mode pour les montres à répétition." From "Horlogers de Paris," given in "L'Almanach Dauphin."

Arthur, William. London. Clockmakers' Company. 1676.

"Ash, Mr." London. 1630. Clockmaker.

Ash, Ralph. London. Clockmakers' Company. 1648.

Ash, Robert. London. Clockmakers' Company. 1826. Cheapside.

Ashbrook, John. London. 1680. Maker of long-case clocks, marquetry cases, square dials.

Ashburne, Leonard. London. 1731. Maker of clock lamps, to tell the hours at night.

Ashley & Mansell. London. 1830. Clerkenwell.

Ashley, J. P. London. 1800-05. City Road.

Ashton, ——. Macclesfield, England, 1760.

Ashurst, William. London. Clockmakers' Company. 1699.

Ashwell, Nicholas. London. Clockmakers' Company. 1649.

Aske, Henry. London. 1688. Admitted to Clockmakers' Company 1676. Had as apprentice the famous clockmaker George Graham.

Askell, Elizabeth. London. 1734. Was bound apprentice to Elinor Mosely.

Aspinwall, Josiah. London. 1675.

Aspinwall, Samuel. London. 1650.

Atkins, Francis. London. 1759-1809. Warden 1777, 78, 79. Master 1780. Elected Clerk 1785.

Atkins, George. London. Born 1767, died 1855. Admitted to the Freedom 1788 and put on livery same year. He succeeded his father as Clerk to the Company, 1809, and held this office thirty-one years. Warden 1842-44. Master 1845, 46. At his death had been connected with the Company sixty-seven years.

Atkins, George. London. Clockmakers' Company. 1808-40. 6 Cowper's Court, Cornhill.

Atkinson, James. London. 1667-97. Was admitted 1667.

Atler, Henry. London. Clockmakers' Company. 1671.

Attwood, George. London. Died 1807. Wrote a treatise on the isochronism of the balance spring, and was one of the committee to report on Mudge's chronometer.

Audebert, ——. Amsterdam. 1760.

Auguier, ——. Litz. 1620-30.

Augustin, ——. Vienna. 1700.

Auld, William. Edinburgh. 1806. Princes Street.

Ausender, Grenado. London. Clockmakers' Company. 1811. Swan Street. Minories. 1817 Langdale Street, St. George's East.

Austen, ——. Cork. 1740-60.

Austin, John. London. Clockmakers' Company. 1711.

Autray, ——. Paris. 1750.

Aveline, Daniel. London. 1731-71. Warden 1768, 69, 70. Master 1771. Died in office.

Aveline, Richard. London. Admitted to livery 1766.

Avenall, Thomas. London. 1700-10.

Avenell, Edward. London. Clockmakers' Company. 1706-49. Beadle of Clockmakers' Company.

Avenell, John. London. 1735-56. Beadle of Clockmakers' Company. Son of Edward.

Avenell, Philip. London. 1775.

Ayeres, Richard. London. Clockmakers' Company. 1680.

Ayr, Benjamin. Edinburgh. 1765.

B

Bacon, Charles. London. Clockmakers' Company. 1719

Bacon, John. London. Clockmakers' Company. 1639.

Bacon, T. Tewkesbury. 1760.

Baddeley, Phineas. London. Clockmakers' Company. 1662.

Badger, John. London. Clockmakers' Company. 1720.

Bages, Johannes. London. 1640.

Bagley, Thomas. London. Clockmakers' Company. 1664.

Bagnall, Henry. London. Clockmakers' Company. 1802-33. Windsor Street.

Bagnall, John. London. Clockmakers' Company. 1826. Houndsditch.

Bagnall, W. H. London. 1830.

Bagnett, William. London. Clockmakers' Company. 1719.

Bagshaw, William. London. Clockmakers' Company. 1722.

Bailey, Jeffrey. London. Warden 1670, 71, 72, 73. Master 1674, 75.

Bailey, Jeremiah. London Clockmakers' Company. 1724.

Bailey, ——. Paris. 1750.

Baillon, G. Paris. 1750. Louis XV. Clock with Sèvres figure, sold for 500 guineas in 1910.

Baillon, J. Baptiste. Paris. 1760. Mrs. C. P. Huntington, New York, has a clock by him with superb mounts by Caffieri. Watch by him at Metropolitan Museum in shagreen case, marked "Horloger du Roy."

Baird, John. London. 1781.

Baker, Edward. London. 1787. White Lion Street.

Baker, John. London. Clockmakers' Company. 1781. King Street, Covent Garden.

Baker, Richard. London. Clockmakers' Company. 1685. A great clockmaker.

Baker, Richard. London. Clockmakers' Company. 1726.

Baldwyn, Thomas. London. Clockmakers' Company. 1706.

Bale, Thomas. London. Clockmakers' Company. 1724.

Ballantyne, James. Edinburgh. 1756.

Ballantyne, William. Edinburgh. 1781.

Ballantyne, William. Edinburgh. 1800.

Ballantyne, William. London. 1815-40. White Lion Street. Goodman's Fields.

Balthazar à Paris. About 1810. Maker of a French gilt bronze and porcelain clock in collection of Robert Hoe, New York, 1911.

Banbury, John. London. Clockmakers' Company. 1685.

Banger, Edward. London. Clockmakers' Company. Apprentice to Joseph Ashby. Freeman 1695. Member of firm Thomas Tompion & Ed. Banger.

Bangiloner, ——. London. 1650.

Banks, J. London. 1830. Long Alley, Finsbury.

Banks, William. London. Clockmakers' Company. 1698.

Bannister, Anthony. London. Clockmakers' Company. 1715.

Bannister, James. London.

1810-40. Clerkenwell — later Leicester Square.

Bannister, T. & J. London. 1825. Hatton Gardens.

Banting, William. London Clockmakers' Company. 1646.

Barachin, Stephen. London Clockmakers' Company. 1687. A Frenchman settled in London.

Barbaret, J. Paris. 1600-10

Barber, Jonas. London. Clockmakers' Company. 1682. Was a great clockmaker.

Barber, Thomas. London 1810. Lamb's Conduit Street

Barbier. Paris. 1750.

Barclay, Hugh. Edinburgh. 1727.

Barclay, Samuel. London. Clockmakers' Company. 1722. An apprentice of George Graham.

Barcole, John. London. Clockmakers' Company. 1648.

Barjon, John. London. Clockmakers' Company. 1685.

Barker, Thomas. London. 1790-1810.

Barker, William. London. Clockmakers' Company. 1632.

Barlow, Benjamin. Oldham. 1773. Long-case clock with curly mahogany panels and French bracket feet.

Barlow, Edward. London. Born 1634, died 1716. Was the inventor of "rack" mechanism used as striking work for all clocks except those of large size. The patent was denied him in 1688.

Barnard, Thomas. London. 1780-1820. The Strand. Maker of long-case mahogany clocks, Sheraton style.

Barnard & Kidder. London. 1810. Strand.

Barnett, John. London. Clockmakers' Company. 1682.

Barnett, John. London. 1700. Lothbury.

Baron, Jean. Utrecht. 1725.

Baron, ——. London. 1750. Maker of silver double-case watch in Proctor collection.

Baronneau, L. Paris. 1650.

Barraud, Frederick Joseph. London. Clockmakers' Company. 1807. Cornhill.

Barraud, James. London. Clockmakers' Company. 1824. White Friars Wharf.

Barraud, John. London. Clockmakers' Company. 1814. Cornhill.

Barraud, Paul P. London. Clockmakers' Company. 1796-1813. Warden 1807, 08, 09. Master 1810, 11.

Barraud & Lunds. London. 1838.

Barrauds. "Cornhill," London. 1810-38.

Barrett, Henry. London. Clockmakers' Company. 1692.

Barrett, Robert. London. Clockmakers' Company. 1688.

Barrett, Samuel. London. Clockmakers' Company. 1701.

Barrett, Thomas. London. Clockmakers' Company. 1702.

Barrett, W. H. London. 1815-40.

Barrington, ——. Stourport. 1720. Bracket clock in mahogany case, brass handles and feet.

Barrow, John. London. Clockmakers' Company. 1681. Warden 1710, 11, 12. Master 1714.

Barrow, Nathaniel. London. Clockmakers' Company. 1660-89. Warden 1685, 86, 87. Master 1689.

Barrow, Samuel. London. 1694-1720. Maker of long-case clocks, mahogany veneered or English walnut inlaid with marquetry, also of lantern clocks.

Barrow, William. London. Clockmakers' Company. 1709.

Barthet, E., à Marseille. 1840.

Bartholomew, J. London. Clockmakers' Company. 1675.

Barthorp, ——. Ixworth. About 1790. Mahogany long-case clock.

Barton, ——. Birmingham. 1750.

Barton, John. London. 1781.

Barton, Samuel. London. Clockmakers' Company. 1641.

Barton, Thomas. London. 1800-23. Bermondsey Square.

Bartram, Simon. London. 1630-60. Junior Warden in 1638-39. Senior Warden in 1640-42. Master in 1650-51.

Bartram, William. London. Clockmakers' Company. 1684.

Barugh, William. London. Clockmakers' Company. 1715.

Barwise, John. London. 1790-1842.

Barwise & Sons. London. 1820. St. Martin's Lane.

Basely, Thomas. London. Clockmakers' Company. 1683.

Bash, James. London. Clockmakers' Company. 1729.

Basire, John. London. Clockmakers' Company. 1786. St. John's Lane.

Basley, John. London. Clockmakers' Company. 1725.

Bass, George. London. Clockmakers' Company. 1722.

Bassot, ——. Paris. 1750.

Bateman, Andrew. London. Clockmakers' Company. 1804-20. Great Tower Street.

Bateman, P. and A. London. 1800-18. Bunhill Row.

Bates, Joseph. London. Clockmakers' Company. 1687.

Bates, Thomas. London. Clockmakers' Company. 1684.

Bath, Thomas. London. 1740.

Batten, John. London. Clockmakers' Company. 1668.

Batterson, Henry. London. Clockmakers' Company. 1701.

Batterson, Robert. London. Clockmakers' Company. 1693. Maker of a fine eight-day clock in lacquer case.

Bauler, James. Leeds. 1800.

Baumann, J. Augsburg. 1760-71.

Baumann, J. H. Burgau. 1770.

Bautte, J. F. et Cie. à Genève. 1825. Mandolin watch, enamelled and jewelled.

Baxter, Charles. London. Clockmakers' Company. 1680.

Baxter, William. London. 1790-1800.

Bayes, Benjamin. London. Clockmakers' Company. 1675.

Bayes, John. London. 1647-62. London 1658-78. Warden 1658, 59, 61, 62.

Bayle, Richard. London Clockmakers' Company. 1660.

Bayle, Thomas. London. Clockmakers' Company. 1702

Bayley, Thomas. London Clockmakers' Company. 1787 Bridgewater Square. 182c Kingsland.

Bayley, William. London Clockmakers' Company. 1653.

Baylie, Jeffry. "At ye turnstyle in Holburn fecit." Admitted to Clockmakers' Company, 1648. A noted maker of chamber clocks. *See* Bailey.

Bayley & Upjohn. London 1794. Clerkenwell.

Bayly, John. London. Clockmakers' Company. 1700.

Bayre, James. London. Clockmakers' Company. 1692.

Bayse, Thomas. London. Clockmakers' Company. 1695.

Bazeley, Nathaniel. London. Clockmakers' Company. 1694.

Beasley, John. London. Clockmakers' Company. 1719.

Beaufere, Johan de. London. About 1750. Maker of a gold repeating watch, with double case pierced and repoussé. In the Robert Hoe collection, New York.

Beaumarchais, Pierre Auguste Caron de. Paris. Born 1732, died 1799. Was a writer of plays and operas also, among them "The Barber of Seville," "Marriage of Figaro," etc.

Beauvais, Simon. London. 1695. Admitted to Clockmakers' Company 1690. Maker of a round gold watch set with lapis lazuli, diamonds and emeralds. Bernal collection.

Beck, Christopher. London 1780-95. Little Bell Alley. Wall clock 1786.

Beck, James. London. 1820. Cornhill.

Beck, Joseph. London. Clockmakers' Company. 1701.

Beck, Nicholas. London. Clockmakers' Company. 1669.

Beck, Richard. London. Clockmakers' Company. 1653.

Becke, John. London. Clockmakers' Company. 1681.

Becker, Antonio. à Frankfort. About 1740. Maker of a gold watch. The case has an en-

graved laurel border and enamel paintings of landscapes, signed "Les deux frères Huant, peintres de Son A. E. de Grandaban." In the Robert Hoe collection, New York.

Beckman, Daniel. London. Clockmakers' Company. 1680.

Beckman, Daniel. London. Clockmakers' Company. 1726.

Beckman, John. London. Clockmakers' Company. 1695.

Beckner, Abraham. London. 1652-68. Was warden and died in office 1665. Lived in Pope's Head Alley and was a well-known maker of watches.

Beckover, R. London. 1750.

Bedertz, Richard. Strasburg. 1600-25.

Bedford, William. London. 1790.

Beeg, Christian. London. Clockmakers' Company. 1698.

Beesley, J. Manchester. 1750.

Begg, John. Edinburgh. 1804.

Beiterbrock, J. Augsburg. 1786.

Belcher, John. London. 1760.

Bell, Alexander. Glasgow 1791.

Bell, Benjamin. London. 1660-94. Made a watch with dial showing seconds, a very early example. Admitted to Clockmakers' Company 1660. Renter Warden 1679. Master 1682. Died 1694.

Bell, John. London. Clockmakers' Compauy. 1719.

Bell, Joseph. London. Clockmakers' Company. 1691.

Bellamy, ——. Geneva. 1800.

Bellard, John. London. Clockmakers' Company. 1674.

Bellinger, John. London. Clockmakers' Company. 1725.

Bendele, J. H. Augsburg. 1763.

Benn, Anthony. London. Warden 1760, 61, 62. Master 1763. Died in office. Put on livery 1756.

Benn, William. London. Clockmakers' Company. 1812. Bunhill Row.

Benn, Thomas. London. Clockmakers' Company. 1786. Clifton. Warwickshire.

Bennett, John. London. Clockmakers' Company. 1678.

Bennett, John. London. Clockmakers' Company. 1712.

Bennett, John. London. 1840.

Bennett, Mansell. London. Clockmakers' Company. 1688-99. "Dial and three crowns."

Bennett, Richard. London. Clockmakers' Company. 1715.

Bennett, Samuel. London. Clockmakers' Company. 1716.

Bennett, Thomas. London. Clockmakers' Company. 1720. An apprentice of Windmill's.

Bennett, William. London. Clockmakers' Company. 1692.

Bennett, William. London. Clockmakers' Company. 1729.

Benoit, J. F. à Nancy. 1730.

Long-case clock in carved oak case, Flemish style, silvered dial. 8 feet, 5 inches tall. Robert Hoe collection, New York.

Benson, Robert. London. 1820-40. Wilderness Row.

Benson, Samuel. London Clockmakers' Company. 1700.

Berg, F. L. Augsburg. 1719. Maker of fine table clocks.

Berger, J. Copenhagen. 1750.

Bergier, L. Grenoble. France. 1600.

Bergmiller à Paris, about 1810. Empire marble and gilt bronze clock. In the collection of Robert Hoe, New York.

Bernard, Nicholas. Paris. 1640.

Bernhards, M. Landsburg. 1750.

Berolla, ——. Paris. 1807.

Berridge, John. Boston. 1738. Maker of odd clock in walnut case.

Berridge, Robert. London. 1790-95. Maker of long-case clocks, veneered or inlaid.

Berridge, William. London. 1781.

Berridge, William. London. 1800-25. Cavendish Square.

Berrington, Uriah. London. Clockmakers' Company. 1684.

Berry, John. London. 1688-1730. Warden 1720, 21, 22. Master 1723. Maker of long-case mahogany veneered clocks.

Berry, John. London. Clockmakers' Company. 1697.

Berry, John. London. Clockmakers' Company. 1728.

Berry, Samuel. London. Clockmakers' Company. 1705.

Berthoud, Ferdinand. Neufchâtel. Born 1745, died 1807. Author of several works on horology, first of which appeared 1760. Maker of astronomical clocks and jewelled watches.

Berthoud, Louis. Paris. 1775-1810.

Bertram, William. London. Warden 1729, 30, 31. Master 1732. Died in office.

Best, Robert. London. 1792-1820. He testified to Earnshaw's improvements.

Best, Thomas. Newcastle. 1765.

Besturkc, Henry. London. Clockmakers' Company. 1686.

Betems, ——. Paris. 1800.

Betterton, ——. London. 1780.

Betts, Samuel, 1. London. 1650-70.

Betts, Samuel, 2. London. 1675-1700. Admitted Clockmakers' Company 1682.

Bexinger, Joseph Anthony. Salzburg. Late seventeenth century. Silver repeating watch, pair cases. Mrs. G. A. Hearn's collection.

Bezar, Stephen. London. Clockmakers' Company. 1648.

Bickel, Franz A. Augsburg. 1792.

Bicknell, Francis. London. Clockmakers' Company. 1665.

Biddle, Joseph. London. Clockmakers' Company. 1684.

Bidlake, James, 1. London. 1770-94. Minories.

Bidlake, James, 2. London. Clockmakers' Company. 1796-1835. Minories.

Bidlake, James Hodgson. London. Clockmakers' Company. 1798-1820. Chiswell Street.

Bidlake, Thomas. London. Clockmakers' Company. 1810-23. Smithin's Lane, Lombard Street.

Bierfelder, E. Steppath, Germany. 1770.

Bierfelder, J. Augsburg. 1775.

Bilbie, John. Oxbridge. 1734-67.

Epitaph:

"Bilbie thy movements kept in play
For thirty years or more, we say.
Thy Balance or thy
Main spring's broken,
And all thy movements
Cease to work."

Bille, John. London. Clockmakers' Company. 1687.

Billop, William. London. Clockmakers' Company. 1688.

Bingham, Thomas. London 1770-81. Holborn.

Binks, ——. London. 1825.

Binny, Daniel. Edinburgh. 1758.

Binny & Gordon. Edinburgh. 1773.

Birch, Thomas. London. Clockmakers' Company. 1682.

Birchall, M. Derby. 1750.

Birchall, William. London. 1816-40. Clerkenwell.

"Bird, Edward, in Cannon St. London." About 1840. Marquetry long-case clock, with brass dial. Robert Hoe collection, 1911.

Bird, John. London. 1760.

Bird, Luke. London. Clockmakers' Company. 1683.

Bird, Michael. London. Clockmakers' Company. 1682.

Birdwhistle, Francis. London. Clockmakers' Company. 1687.

Birdwhistle, Isaac. London. Clockmakers' Company. 1692.

Birdwhistle, John. London. Clockmakers' Company. 1716.

Birdwhistle, Thomas. London. Clockmakers' Company. 1693.

Bishop, Thomas. London. Clockmakers' Company. 1810-20. Thames Street.

Bishop, William. London. 1830. New Bond Street.

Bizot à Paris. Maker of a vertical movement at Clockmakers' Museum.

Blackborow, James. London. 1734. Warden 1743, 44, 45. Died in office.

Blackburn, Thomas. London. Clockmakers' Company. 1812. Little Britain.

Blackburn, William. London. Clockmakers' Company. 1796. Aldersgate Street.

Blackett, John. London. Clockmakers' Company. 1809. Mark Lane.

Blainville, ——. Rouen. 1750.

Blake, William. London. 1790.

Blakey, William. Paris. 1780. Made Empire clocks alabaster and gilt. One at Mt. Vernon.

"Blanc Fils. Palais Royal." 1800. Hanging bronze clock, Empire style. A female figure standing on a gilt bronze ball holding a bronze case shaped like a Greek galley, having on top an imperial eagle. Robert Hoe collection, New York.

Blank, Franz B. Steppath, Germany. 1770.

Blaser, ——. Berne, Switzerland. 1675.

Blasser, J. I. Augsburg. 1786.

Bliss, Ambrose. London. 1656. Admitted Clockmakers' Company 1653.

Blog, J. London. 1825. Aldersgate Street.

Blois, Alais. Paris. 1675.

Blumb, Joseph à Germanie. Late eighteenth century. Maker of very beautiful enamelled watches.

Blundell, Richard. London. Clockmakers' Company. 1681. Maker of cases.

Blundell, William. London. Clockmakers' Company. 1715.

Blundy, Joseph. London. 1781-1800.

Bobinet, Charles. France. 1650. Skull-shaped watch, Bernal collection.

Bock, J. Frankfort. 1625-49.

Bockel, ——. Amsterdam. 1648. Maker of a watch inscribed on face, "Oliver Cromwell." This watch was exhibited in America at the Columbian Exposition. It is owned by Evan Roberts of Manchester, England.

Bocketts, ——. The Hague. 1750.

Bodd, Thomas. London. Clockmakers' Company. 1692.

Boddily, Elizabeth. London. Clockmakers' Company. 1692.

Bodenham, Edward. London. Clockmakers' Company. 1719.

Bogner, J. B. Augsburg. 1769.

Bohm, M. Nuremberg. 1675-1702.

Bommel, M. Nuremberg. 1642.

Bommelt, Leonhart. Nuremberg. 1690.

Bompard à Paris. Small timepiece at Clockmakers' Museum.

Bonbruid, ——. Blois, France. 1650.

Bonna, ——. Geneva. 1750.

Bonner, Charles. London. Clockmakers' Company. 1659.

Bonner, Charles. London. Clockmakers' Company. 1704.

Bonneux, C. Paris. 1640. Maker of a watch which belonged to Anne of Austria, Bernal collection.

Booker, Richard. London. Clockmakers' Company. 1694.

Booker, Richard. London. Clockmakers' Company. 1728.

Boone, Edward. London. Clockmakers' Company. 1691.

Boosey, Thomas. London. Clockmakers' Company. 1812. Old Broad Street.

Booth, B. Pontefract, England. 1770.

Booth, James. Little Tower Street, London. Clockmakers' Company. 1786. Rochester, Kent, 1811.

Booth, Richard. London. 1798-1830. Beadle of Clockmakers' Company. 4 Alfred Court, Paul's Alley, Redcross Street.

Booth, Samuel. London. Clockmakers' Company. 1831. 4 Alfred Court, Paul's Alley. Redcross Street.

Bordier, Denis C. France. About 1630. Maker of an oval silver watch engraved with arabesques and biblical scenes, in the collection of Robert Hoe, New York.

Bordier, Leonard. Geneva. 1785-1800. Celebrated for his enamelled watches.

Bordier Frères. Geneva. 1815-30.

Borj, ——. Paris. 1600.

Borondeau, L. Paris. 1600.

Borrett, George. "Stowmarket." 1750.

Borsdofer, Johannes. Augsburg. 1698.

Boubon, ——. Paris. 1750.

Bouchet, Jacob. London. Clockmakers' Company. 1728.

Bouguet, ——. London. 1562. Maker of watches with enamelled dial plates.

Boult, Joseph. London. Clockmakers' Company. 1709.

Boult, ——. Bath, 1750.

Bouquett, David. London. 1632-65. He was admitted to Clockmakers' Company 1632. A maker of watches with cases beautifully enamelled by French artists. Watch by him in Hoe collection, New York.

Bouquett, Daniel. London. 1690-1700.

Bouquett, Solomon. London. Clockmakers' Company. 1650-83. Probably David's brother.

Bourgeois, Jean B. Paris. 1740.

Bourguen, ——. Paris. 1750.

Bourrit, ——. Geneva. 1750.

Boutte, ——. Paris. 1750.

Bovelle, ——. Paris. 1740.

Bowen, John. London. Clockmakers' Company. 1709.

Bowen, John. London. 1807-40.

Bowen, Richard. London. 1647. Maker of a round silver watch, two cases, in the centre of the back a figure of Charles I. praying. At the back of inner case above a man praying, a scroll with "And what I sai to you I sai unto all, watch." Bernal collection.

Bowen, Thomas. London. Clockmakers' Company. 1797-1811. Coppice Row, Clerkenwell.

Bowly, Devereux. London. 1716-73. Warden 1756, 57. 58. Master 1759. Put on livery 1766, left £500 legacy for Poor Freemen and Widows, 1773.

Bowtell, Samuel. London. Clockmakers' Company. 1681.

Bowter, William. London. Clockmakers' Company. 1702.

Bowyer, William. London. 1630. Charter member. By the gift of a chamber clock in 1647 he became exempt from "place office and service except in case he be willing thereto."

Boyce, James. London. 1715.

Boyson, ——. London. 1685.

Bracebridge, Edward. London. 1805-15. Clerkenwell.

Brackley, George. London. Clockmakers' Company. 1677.

Bradel, A. Augsburg. 1739.

Bradel, J. Oberhausen. 1770.

Bradel, N. Augsburg. 1753.

Bradford, Thomas. London. Clockmakers' Company. 1680.

Bradford, Thomas. London. Clockmakers' Company. 1692.

Bradford, Thomas. London. Clockmakers' Company. 1710.

Bradford, ——. London. Strand. 1710.

Bradin, Caspar. London. Clockmakers' Company. 1715.

Bradley, Benjamin. London. Clockmakers' Company. 1728.

Bradley, Henry. London. Clockmakers' Company. 1681.

Bradley, Langley. London. Clockmakers' Company. 1695-1726. Warden 1724, 25. Master 1726. Was a famous clockmaker and in 1708 made the clock for St. Paul's, London, at a cost of £300. Fenchurch Street shop.

Bradley, Nathaniel. London. Clockmakers' Company. 1694.

Bradshaw, John. London. Clockmakers' Company. 1731.

Bradshaw, R. London. 1725.

Bradshaw & Ryley. Coventry. 1750.

Bradt, Anton. Augsburg. 1750. Maker of a gold watch in the collection of Robert Hoe, New York.

Braemer, Paulus. Amsterdam. 1725.

Brafield, Thomas. London. Clockmakers' Company. 1678.

Bramer, G. Amsterdam. 1750.

Brand, Alexander. Edinburgh. 1726.

Brandon, Benjamin. London. Clockmakers' Company. 1689.

Brandreth, Joseph. London. Clockmakers' Company. 1718.

Brandt, Amie. Paris. 1800.

Brandt, Charles. London. 1815-30.

Brant, Richard. London. Clockmakers' Company. 1700.

Bratil, Nicodemus. Augsburg. 1720. Maker of silver watch with pair cases, enamelled and engraved. Mrs. G. A. Hearn's collection.

Braun, J. G. Augsburg. 1712.

Braunmiller, J. A. Augsburg. 1792.

Bray, Robert. London. Clockmakers' Company. 1728.

Brayfield, Thomas. London. Clockmakers' Company. 1682.

Brayfield, William. London. Clockmakers' Company. 1712.

Brederode, T. The Hague. 1750.

Bréguet, Abraham Louis. Paris. Born 1747, died 1823. A famous French watchmaker. He improved the balance spring used in fine watches.

Bréguet et Fil. Paris. 1784.

Bressel, S. Augsburg. 1725-52.

Breynton, Vaugh. London. Clockmakers' Company. 1693.

Brewer, John. London. Clockmakers' Company. 1677.

Brice, W. Sandwich, England. 1780.

Bridgden, Henry. London. Clockmakers' Company. 1682.

Bridgeman, Edward. London. Clockmakers' Company. 1662.

Bridger, Samuel. London. Clockmakers' Company. 1702.

Briscall, J. Birmingham. 1851.

Brittayne, Stephen. London. Clockmakers' Company. 1692.

Britton, Stephen. London. Clockmakers' Company. 1728.

Broad, Thomas. London. Clockmakers' Company. 1682.

Broad, William. London. Clockmakers' Company. 1812. Leadenhall Street.

Broadhead, Benjamin. London. Clockmakers' Company. 1709.

Broadwater, Hugh. London. Clockmakers' Company. 1692.

Brockbank, Edward. 1770. Corners, Cumberland. Father of John.

Brockbank, John. London. Clockmakers' Company. 1760-81. Livery 1777. Cornhill.

Brockbank, John Edward. London. 1806. Succeeded to the business of John.

Brockbank, Myles. London. Clockmakers' Company. 1776. Livery 1796. Joined with his brother John in the firm of "Brockbanks," which continued firm name till 1814.

Brockbank, William. London. Succeeded with J. Edward to business in 1806.

Brockbank & Atkins. London. 1815-21. Myles Brockbank and George Atkins (son of Francis). Clockmakers' Company 1788-1841.

Brocke, ——. London. 1640.

Brod, J. Augsburg. 1755.

Brod, J. G. Augsburg. 1786.

Brod, J. I. Augsburg. 1791.

Brook, Edmund. London. Clockmakers' Company. 1709.

Brooke, George. London. Clockmakers' Company. 1681.

Brooke, John. London. 1630.

Brooke, John Walter. London. Clockmakers' Company. 1812. Upper Thames Street.

Brookes, Edward. London. Clockmakers' Company. 1690.

Brooks, John. London. Clockmakers' Company. 1796. Holborn.

Brooks, Samuel. London. Clockmakers' Company. 1812. Ashby Street. Goswell Street.

Broome, Thomas. London. Clockmakers' Company. 1652.

Brosy, J. P. Friedburg. 1732.

Brosy, Michael. London. 1680.

Brough, Samuel. London Clockmakers' Company. 1792. New Street, Cloth Fair.

Brough, Samuel. London. Clockmakers' Company. 1807. Peartree Street, Goswell Street. 1811, Union Street. Kingsland Road.

Broun, Daniel. High Street. Glasgow. 1783.

Broun, George. Edinburgh. 1772-1826.

Brown, Andrew. Edinburgh. 1700. One of the most famous of Scottish makers.

Brown, James. Croydon. Clockmakers' Company. 1687.

Brown, James. London. Warden 1768, 69. Master 1770. Put on livery 1766.

Brown, Natt. Manchester. 1780. Maker of a silver double-case watch in Proctor collection.

Brown, Philip. London. Clockmakers' Company. 1688

Brown, Richard. London Clockmakers' Company. 1675.

Brown, Thomas. London. Clockmakers' Company. 1702

Brown, Thomas. Birmingham, about 1760. Maker of eight-day clock in case of English oak with musical chimes which play.

Browne, Henton. London. Warden 1750, 51, 52. Master 1753. Put on livery 1766.

Browne, John. London. 1652-98. Warden 1677, 80. Master 1681.

Browne, Matthew. London. Clockmakers' Company. 1633

Brownlie, Alexander. Edinburgh. 1720.

Bruce, James. London. Clockmakers' Company. 1721.

Brulfer à Paris. About 1760. Clock with rosso antico base; a wild boar in bronze supports a cartel-shaped case of bronze. In the Robert Hoe collection, New York. 1911.

Bryan, Richard. London. Clockmakers' Company. 1696.

Bryant, John. Exning, England. Born 1748, died 1829. Made many choice clocks for royalty, and many of his clocks are dated.

Bryant & Son. London. 1781.

Bryson, Robert. Edinburgh. 1810. Famous maker of both clocks and watches.

Buchegger, ——. Nuremberg. 1750.

Buchman, John. London. Clockmakers' Company. 1692. A German settled in London.

Buckenhill, Edward. London. Clockmakers' Company. 1687.

Bucklee, David. London. Clockmakers' Company. 1780. Bridgewater Square. 1816, Hastings, Surrey.

Bucknell, James. Crediton, England. 1680-90. Tall clock in oak case by this maker, owned by Rev. C. M. Cox, London, Canada.

Bucknell, T. Barkhamstead, England. 1750.

Buckner, Richard. London Clockmakers' Company. 1701.

Bucknor, Philip. London Clockmakers' Company. 1667.

Buckwell, E. Brighton. 1740.

Bujard & Co. à Pforzheim. Maker of a watch set in cane-handle of Dresden china, late eighteenth century. Mrs. G. A. Hearn's collection, New York.

Bukenhill, John. London. Clockmakers' Company. 1672.

Bulcke, Jacques. Paris. 1600.

Bull, Edmund. London. 1630. Fleet Street.

Bull, John. London. 1610. "Clocke-Keeper" to James I

Bull, John. London. 1630. One of the original fifty who subscribed to the fund for obtaining a charter.

Bull, Ranulph. London. 1617. Repairer of Westminster clock.

Bullby, John. London. Clockmakers' Company. 1632.

Bullingford, ——. London 1645-75. Maker of a silver pair-case watch advertised as stolen in New Haven, Conn., 1816.

Bullman, J. Nuremberg. 1798

Bullman, Thomas. London. 1690. Maker of long-case clocks.

Bumel, M. Nuremberg. 1601.

Bumstead, Robert. London. Clockmakers' Company. 1707.

Bun, Matthew. London. Clockmakers' Company. 1698.

Bunting, William. 1631.

"Pope's Head Alley, Cornhill."

Burchett, John. London. Clockmakers' Company. 1731.

Burdeau. Paris. 1696. Made a clock for Louis XIV.

Burges, Charles. London. 1765.

Burgis, Elias. London. Clockmakers' Company. 1681.

Burgis, John. London. 1630.

Burkhardt & Brandt. Chaux-de-Fonds, Switzerland. Early nineteenth century watches.

Burleigh, Ninyan. London. Clockmakers' Company. 1692.

Burnett, Philip. London. Clockmakers' Company. 1715.

Burnett, Richard. London. Clockmakers' Company. 1705.

Burrows, Joseph. London. Clockmakers' Company. 1803. Tabernacle Walk.

Buschman, John Baptist. London. Clockmakers' Company. 1725.

Bushman, John. London. Clockmakers' Company. 1687.

Bushman, John. London. 1760. Maker of a pair-case gold watch in the Robert Hoe collection, New York, 1911.

Butcher, Benjamin. London. Clockmakers' Company. 1812. Long Lane, Bermondsey. 1821, Botolph Alley, Botolph Lane.

Butcher, William. London. Clockmakers' Company. 1821. Botolph Alley. Botolph Lane.

Butler, John. London. Clockmakers' Company. 1724.

Butts, Daniel. London. Clockmakers' Company. 1663.

Buz, Johannes. Augsburg. 1625.

Bysse, Edward. London. 1620. Tulip-shaped silver watch by him in Bernal collection.

C

Cabrier, Charles. London. 1680. Admitted to Clockmakers' Company 1697. Maker of silver watch in Bernal collection showing days of month. He made many fine watches in gold cases.

Cabrier, Charles. London. 1726. Warden 1754, 55, 56. Master 1757. He prosecuted a man named Anderson for putting his name on some watches; a verdict of £100 was given in Cabrier's favour, 1777. There were five watch and clock makers in London during the eighteenth century bearing this name, Cabrier.

Cabrier, Charles. London. 1752. Maker of a watch beautifully enriched with diamonds, Tzar's collection.

Cabrier, John. London. Clockmakers' Company. 1730.

Cabrier, Favey & Son. London. 1798. Wilderness Row.

Cabrier & Leekey. London. 1781.

Cade, Simon. London. Clockmakers' Company. 1688.

Cadier, ——. London. 1750.

Cæsar, Daniel. London. Clockmakers' Company. 1703.

Caillard, ——. Paris. 1800.

Caille, ——. London. 1770.

Caiquillot, Jehan. Abbeville, France. 1680.

Calcott, Tobias. London. Clockmakers' Company. 1664.

Calderwood, Thomas. London. Clockmakers' Company. 1724.

Callam, Alexander. London. Clockmakers' Company. 1790.

Callam Brothers. London 1796-1820. Long Acre.

Callet, F. Paris. 1775-90.

Calliber, John. London. Clockmakers' Company. 1703.

Calliber, Thomas. London. Clockmakers' Company. 1727.

Calson, John. London. Clockmakers' Company. 1647.

Calston, John. London. Clockmakers' Company. 1653.

Calver, J. Woodbridge, England. 1750.

Cam, William. London. Clockmakers' Company. 1686.

Cambridge, Samuel. London. Clockmakers' Company. 1697.

Camden, William. London. Clockmakers' Company. 1708.

Cameel, C. Strasbourg. Maker of an engraved octagonal silver-gilt watch. Bernal collection.

Campbell, James. London. 1800.

Campbell, John. London. 1690-1700.

Canche, Jacques. London. 1680.

Cann, John. London. Clockmakers' Company. 1640.

Cannon, Joseph. London. 1790.

Capt & Freundler. Geneva. 1750.

Card, Edmund. London. Clockmakers' Company. 1679.

Carduroy, Philip. London. Clockmakers' Company. 1679.

Carey, George. London. Clockmakers' Company. 1679.

Carey, Thomas. London. Clockmakers' Company. 1705.

Carlin, Martin. About 1770. Maker of a most elaborate clock with ormolu mounts in the Louvre.

Carlton, John. London. 1630.

Carmichael, James. Edinburgh. 1796.

Carmichael, John. Greenock, Scotland. 1786.

Caron, Pierre Auguste. Paris. Born 1732, died 1799. A maker of splendid watches.

Carpenter, Thomas. London. Clockmakers' Company. 1796. Near St. John's Street turnpike.

Carpenter, Thomas. London.

Admitted Clockmakers' Company 1767.

Carpenter, William. London. 1781-1817.

Carre, Daniel. London. 1690.

Carrington, James. London. 1760. Warden 1767.

Carrington, Richard. London. 1781.

Carrington, Colonel Robert. London. 1766.

Carrington, Thomas. London. Clockmakers' Company. 1766-86. Bishopsgate Street.

Carruthers, George. London. Clockmakers' Company. 1788-96. Cursitor Street, Chancery Lane.

Carstens, Heinrich. Lubeck, Germany. 1750.

Carte, John. London. Clockmakers' Company. 1695.

Carter, Edward. Dublin. 1775.

Carter, John. London. Clockmakers' Company. 1728.

Carter, John. London. Clockmakers' Company. 1829. Warden 1852, 53, 54, 55, 62, 63. Master 56, 59, 64. Lord Mayor in 1857, died 1878.

Carter, Leon Augustus. London. Clockmakers' Company. 1726.

Carter, Thomas. London. Clockmakers' Company. 1699.

Cartier, Charles. London. 1697.

Cartier, Jacques. Paris. 1650-1700.

Carthro, G. & R. London. 1812.

Carthro, R. London. 1835.

Cartwright, George. London. Clockmakers' Company. 1706.

Cartwright, N. London. 1740. Had a shop in Lombard Street.

Cartwright, Thomas. London. 1720. Was apprenticed to Richard Watts 1693.

Cartwright, William. London. Clockmakers' Company. 1713.

Carver, Isaac. London. Clockmakers' Company. 1667.

Carver, ——. London. 1750.

Cary, George. London. Clockmakers' Company. 1679.

Case, R. London. 1760.

Castang, Philip. London. 1777.

Casterton, James. London. Clockmakers' Company. 1812. Stock Exchange.

Cathay, Daniel. London. 1775-79. Beadle of Clockmakers' Company.

Catsworth, John. London. Clockmakers' Company. 1669.

Cattell, Thomas. London. Clockmakers' Company. 1688.

Cattell, William. London. Clockmakers' Company. 1671

Cattey, Daniel. London. Clockmakers' Company. 1731.

Cauch, James. London. Clockmakers' Company. 1692.

Caudy, J. A., à Geneve. 1780.

Cavendish, Richard. London.

Clockmakers' Company. 1810. Coleman Street.

Ceulercaga, J. London. 1760.

Cext, Catherine. London. Clockmakers' Company. 1730.

Chalk, James. London. Clockmakers' Company. 1812. Whitechapel Road.

Chamberlaine, John. London. Clockmakers' Company. 1687.

Chamberlaine, Nathanial. London. Clockmakers' Company. 1685. Warden 1715, 16. Master 1717.

Chamberlaine, Thomas, "de Chelmisforde," 1640 on a round silver watch.

Chamberlaine, Thomas. London. 1650.

Chamberlayne, ——. London. Clockmakers' Company. 1687.

Chambley, John. West Hampton. 1800.

Champion, Isidore. Paris. 1660. Brass cruciform watch with silk or catgut spring.

Champion, John. London. Clockmakers' Company. 1641.

Champion, John. London. Clockmakers' Company. 1651.

Champson, Richard. London. Clockmakers' Company. 1673.

Chams, Charles Sampson. London. Clockmakers' Company. 1692.

Chancey, James. London. 1741.

Chanville, James. London. Clockmakers' Company. 1699.

Chapman, Simon. London. Clockmakers' Company. 1675.

Chappel, Robert. London. Clockmakers' Company. 1720.

Charie, Dennis Lewis. London. Clockmakers' Company. 1829. Bridgewater Square.

Charle, Charles D. Kent, England. 1760.

Charlton, John. London. 1630. Warden 1635. Master 1640

Charlton, John. London. Clockmakers' Company. 1631-50. One of the first assistants.

Charlton, Matjonat. London. Clockmakers' Company. 1728. Was an apprentice of George Graham's.

Charleston, C. London. 1750.

Charleston, P. London. 1740-50.

Charlstrom, William. London. Clockmakers' Company. 1810-35. Ashby Street, St. John's Street.

Charmes, Simon de. London Clockmakers' Company. 1691. He was a famous maker of repeating watches.

Charrington, Samuel. London Master 1768,—died in office.

Chartier, Isaac. London. 1780.

Charwell, James. London. 1750. Maker of a repeating watch of pierced gold with shagreen case.

Chater, Eliezer. London. 1769-81. Warden 1769, 70, 71. Master 1772. Put on livery 1766.

Chater, James. London. Clockmakers' Company. 1727.

Chater, James. London. 1781 Cherry Tree Court.

Chater, Richard. London. Clockmakers' Company. 1787-1812. Cornhill.

Chaunes, ——. Paris. 1580-1600.

Chayton, James. London. Clockmakers' Company. 1727.

Cheeseman, Daniel. London. Clockmakers' Company. 1699.

Cheltenham, Michael. London. Clockmakers' Company. 1712.

Cheney, Wither. London. Warden 1691, 92, 93.

Cherudens, Jean de. Berlin. Watch with portraits of Elector and Electress of Brandenburg. Bernal collection.

Chesnon, Solomon, à Blois. 1680. Maker of small watches in quaint cases.

Cheuillard, ——. Blois, France. 1600.

Chevalier & Compe. Geneva. 1750. Made enamelled watches.

Cheyne, Claudius du. Paris. About 1730. Maker of fine chimney bracket clock.

Chilcott, John. London. Clockmakers' Company. 1721.

Chilcott, Richard. London. Clockmakers' Company. 1690.

Child, Henry. London. Clockmakers' Company. 1642-64. Master and died in office.

Child, Henry. London. Clockmakers' Company. 1677-90.

Child, Ralph. London. Clockmakers' Company. 1662.

Child, Richard. London. 1630-55. Junior Warden 1641.

Chisman, Timothy. London. 1796. Warden 1800, 01, 02. Master 1803. Birchin Lane, Cornhill.

Chopin à Paris. About 1820. Maker of a bronze gilt clock, in late Empire style. In the Robert Hoe collection, New York, 1911.

Choudens, Jean de. 1600-50. Maker of a gold enamelled square watch. Bernal collection.

Churchman, Michael. London. Clockmakers' Company. 1694.

Clare, Peter. Hatton, England. 1790.

Clare, Peter. Manchester. 1800-51.

Claridge, Robert. London. Clockmakers' Company. 1812. Finchley, Middlesex.

Clark, James. Edinburgh. 1808.

Clark, Richard. London. Clockmakers' Company. 1792. Radcliffe Row, St. Luke's.

Clark, Stanford. London. Clockmakers' Company. 1696.

Clark, Thomas. London. Clockmakers' Company. 1720.

Clark, William. London. 1750-75. Maker of watch of copper-gilt, repoussé double case, in Proctor collection.

Clarke, George. London. Clockmakers' Company. 1632.

Clarke, Henry. London. Clockmakers' Company. 1803. Born 1780, died 1865. Warden 1822, 23, 24, 25, 26.

Clarke, Humphrey. London. Clockmakers' Company. 1668.

Clarke, Richard. London. Clockmakers' Company. 1720.

Clarke, Thomas. London. Clockmakers' Company. 1709.

Clarke, William. London. Clockmakers' Company. 1654.

Claston, Thomas. London. Clockmakers' Company. 1646.

Claxton, Thomas. London. 1656. Warden 1666, 67, 68, 69. Master 1670.

Clay, Charles. London. 1716. Tried to obtain a patent for "a machine to answer the end of a Repeating watch or clock," but was denied.

Clay, Samuel. London. Clockmakers' Company. 1687.

Clay, William. London. 1656-70.

Clay, William. London. Clockmakers' Company. 1687. There is a watch made by him in the Clockmakers' Museum.

Clayton, Thomas. London. Clockmakers' Company. 1646-70.

Cleek, Daniel. Amsterdam. 1715.

Cleeke, Henry. London. Clockmakers' Company. 1655.

Cleeve, William. London. Clockmakers' Company. 1654.

Clement, Edward. London. Clockmakers' Company. 1670.

Clement, William. London. Clockmakers' Company. 1677. Warden 1690, 91, 92. Master 1694. Improved the mechanism of pendulum clocks by introducing the swing wheel with anchor pallets. By this means the pendulums could be made longer, heavier, and vibrated in a smaller arc.

Clements, Robert. London. Clockmakers' Company. 1686.

Clementson, Richard. 1745. Dunstable.

Clerke, George. London. Clockmakers' Company. 1786-1820. Aldersgate Street.

Clerke, George. London. Clockmakers' Company. 1810-40. Aldersgate Street.

Clewes, James. London. Clockmakers' Company. 1670. "A Great Clockmaker."

Clifton, Thomas. London. Clockmakers' Company. 1651.

Clifton, Thomas. London. Clockmakers' Company. 1687.

Clifton, ——. Liverpool. Maker of a clock with brass dial and inscription, "On Time's uncertain date eternity depends."

Cliverdon, Thomas. London. Clockmakers' Company. 1722.

Closson, Peter. London. 1630-55. Charter member 1630. Senior Warden 1636, 38, 39. "Neare Holbourne Bridge."

Clows, John. London. 1672. Warden 1713. Excused for poor health. Maker of a pair-case silver watch advertised as stolen in New Haven, Conn., 1816.

Cluer, Obadiah. London. Clockmakers' Company. 1709.

Cluter, William. London. Clockmakers' Company. 1709.

Clyatt, Abraham. London. Clockmakers' Company. 1680.

Clyatt, John. London. Clockmakers' Company. 1708.

Clyatt, Samuel. London. Clockmakers' Company. 1671.

Clyatt, Samuel. London. Clockmakers' Company. 1711.

Clyatt, William. London. Clockmakers' Company. 1709.

Clyer, Obed. London. Clockmakers' Company. 1709.

Cobb, John. London. Clockmakers' Company. 1703.

Cockburn, Adam. Haddington. 1820. Came to Canada in 1843.

Cockford, Matthew. London. Clockmakers' Company. 1693.

Cogniet à Paris. 1680. Maker of a "pendule" watch now owned by the Clockmakers' Company.

Cole, Daniel. London. Clockmakers' Company. 1726.

Cole, James F. 1799-1880. Born in Scotland 1799, died London 1880. He was a superior clockmaker.

Cole, John. London. Clockmakers' Company. 1729-60.

Coleman, Frederick. Ipswich, England. 1720.

Coleman, John. London. Honorary Freeman 1781.

Coleman, Thomas. London. Clockmakers' Company. 1813. Westmoreland Street, Marylebone.

Colladon, ——. Geneva. 1790.

Collet, ——. Rouen. 1650.

Collier, Benjamin. London. Clockmakers' Company. 1693-1724. A famous maker and contemporary of Quare.

Collier, David. London. 1760. Maker of eight-day long-case clock in oak case.

Collingridge, Edmund. London. Clockmakers' Company. 1810. Wilderness Row, Goswell Street.

Collingwood, Samuel John. London. Clockmakers' Company. 1787-96. Long Alley, Moorfields.

Collins, Clement. London. Clockmakers' Company. 1705.

Collins, John. London. Clockmakers' Company. 1701.

Collins, John. London. Clockmakers' Company. 1727.

Collinson, F. London. 1740-50.

Collyer, Benjamin. London. 1693.

Colston, ——. London. 1650.

Colston, Richard. London. Clockmakers' Company. 1682-1700.

Combes, John. London. 1776. Made a freeman Clockmakers' Company 1779.

Combret, Pierre. Lyons. 1610.

Comfort, William. London. 1647-70. Was an influential member of Clockmakers' Company.

Comley, Thomas. London. 1780-90.

Compart, Ebenezer. London. Clockmakers' Company. 1728.

Compton, Adam. London. Clockmakers' Company. 1716.

Conden, Robert. London. 1781.

Congreve, William. London. 1808.

Conrad & Kreiger. 1690. Makers of octagonal watch, crystal case, opens both back and front.

Cony, John. London. Clockmakers' Company. 1641.

Conyers, Richard. London. Clockmakers' Company. 1716.

Cooke, John. London. Clockmakers' Company. 1775.

Cooke, John. London. Clockmakers' Company. 1712.

Cooke, John. London. Clockmakers' Company. 1662.

Cooke, John. London. Clockmakers' Company. 1649.

Cooke, Joseph. London. Clockmakers 'Company. 1715.

Cooke, Lewis. London. Clockmakers' Company. 1632. Charter member.

Cooke, Robert. London. Clockmakers' Company. Admitted to Clockmakers' Company 1667.

Cooke, Thomas. London. Clockmakers' Company. 1699.

Cooke, William. London. Clockmakers' Company. 1681.

Cooke, William. London. Clockmakers' Company. 1708.

Coombs, Fisher. London. Clockmakers' Company. 1728.

Coombs, Joseph. London. Clockmakers' Company. 1720.

Coope, James. London. Clockmakers' Company. 1654.

Cooper, Hugh. London. Clockmakers' Company. 1653.

Cooper, Thomas F. London. 1825-60.

Cope, Peter. London. Clockmakers' Company. 1638.

Copeland, Alexander. London. Clockmakers' Company. 1810. Jewry Street, Aldgate.

Copley, Thomas. London. 1631. Chosen Clerk of company for life.

Corbet, Robert. Glasgow. 1820-40. His name is seen on clocks in America.

Corbett, ——. Hadley. 1780.

Corderoy, Philip. London.

About 1760. Lacquer case miniature long-case clock, goes twenty-eight days.

Cordon, Richard. London. Clockmakers' Company. 1729.

Cordrey, Thomas. London. Clockmakers' Company. 1670.

Cordwell, Robert. London. Clockmakers' Company. 1646.

Corfuch, T. Salop, England. 1755.

Cornber, ——. Lewes, England. 1750.

Cornish, Michael. London. Clockmakers' Company. 1661.

Cosboy, Robert. London. Clockmakers' Company. 1653-70. Rood Lane.

Coster, Robert. London. Clockmakers' Company. 1655.

Coster, William. London. Clockmakers' Company. 1660.

Cother, William. London. Clockmakers' Company. 1668.

Cotterel, John. London. Clockmakers' Company. 1721.

Cotterel, William. London. Clockmakers' Company. 1694.

Cotton, John. London. Clockmakers' Company. 1695.

Cotton, John. London. Clockmakers' Company. 1718.

Cottonbull, John. London. Clockmakers' Company. 1729.

Couche, Charles. London. Clockmakers' Company. 1727.

Coulin, ——. Geneva. 1780. Maker of an enamelled watch in Proctor collection.

Coulson, Robert. London, Clockmakers' Company. 1810-38. St. James' Walk, Clerkenwell.

Coupson, ——. Paris. 1760.

Coupson, M., Jr. Paris. 1764. Maker of a watch which required no winding up but was set in motion by a push.

Court, Henry. London. Clockmakers' Company. 1822. Fish Street Hill.

Courvoisier, F. A. Chaux-de-Fonds, Switzerland. 1830-54.

Courvoisier Bros. Geneva. 1804. Maker of silver case watch with enamel dial, Proctor collection.

Courvoisier & Compe. Geneva. Ninteenth century. Repeaters, enamelled and jewelled.

Cowan, James. Edinburgh. 1760-81. A pupil of Archibald Straiton, Edinburgh, and Julien Le Roy, Paris. One of the most famous Scottish makers.

Coward, William. London. Clockmakers' Company. 1681.

Cowderoy, John. London. Clockmakers' Company. 1826. Great Surrey Street.

Cowell, John. London. Clockmakers' Company. 1759.

Cowell, John. London. Clockmakers' Company. 1786. Cornhill.

Cowpe, Edward. London. Clockmakers' Company. 1687.

Cowper, Josias. London. 1628.

Cox, James. London. 1765-89. No. 103 Shoe Lane, Holborn. Maker of choice articles for the East Indian market. An eminent watchmaker, jeweller, and mechanician.

Cox, Thomas. London. Clockmakers' Company. 1708.

Coxiter, John. London. 1661. Master 1661, 62. Was still active in 1677.

Coxiter, Nicholas. London. Clockmakers' Company. 1648-78. Warden 1656, 57, 58, 59. Master 1671, 77. A maker of excellent clocks, who lived near Goldsmiths' Hall.

Coxiter, William. London. Clockmakers' Company. 1654.

Craggs, Richard. London. Clockmakers' Company. 1660.

Cranfield, Henry. London. Clockmakers' Company. 1706.

Cratzer, Nicholas. London. 1541. A Bavarian, and "deviser of the King's horologeries," in the time of Henry VIII.

Craven, Thomas. London. Clockmakers' Company. 1688.

Crawley, Thomas. London. Clockmakers' Company. 1660.

Crayle, Richard. London. 1627-55.

Crayton, William. London. About 1760. Pair-case gold watch, with outer case pierced and repoussé. In the Robert Hoe collection, New York.

Creak, William. London. 1740-60. Maker of superior bracket clocks.

Creed, Thomas. London. Clockmakers' Company. 1668.

Creed, Thomas. London. Clockmakers' Company. 1674.

Creede, John. London. Clockmakers' Company. 1727.

Creeke, Henry. London. 1654. He made clocks without being a member of the Clockmakers' Company, but on submitting to the rules, and promising to give the house a new clock and larum and 20s. of money, suit by company was withdrawn.

Cripple, William. London. Clockmakers' Company. 1702.

Croak, Sampson. London. Clockmakers' Company. 1668.

Crocker, James. London. Clockmakers' Company. 1710.

Crockford, Matthew. London. Clockmakers' Company. 1693.

Croft, John. London. Clockmakers' Company. 1665.

Cronier, ——. Paris. 1780. Maker of a clock with case having three Sèvres placques inset; brought £756 at Christie's, July, 1909. Maker of a double-virgule movement, now in Clockmakers' Museum.

Crooke, Peter. London. Clockmakers' Company. 1724.

Cross, James. London. Clockmakers' Company. 1776.

Cross, John B. London. 1820-50. Admitted Clockmakers' Company 1822. Jewin Street.

Cross, Joseph. London. Clockmakers' Company. 1828. Fredegar Square, Bow Road.

Crouch, Edward. London. 1691. Warden 1716, 17, 18. Master 1719.

Crouch, George. London. Clockmakers' Company. 1668.

Crouch, Robert. London. Clockmakers' Company. 1722.

Croucher, Joseph. London. Clockmakers' Company. 1838. A sugar refiner who turned his attention to chronometers. Admitted to Clockmakers' Company 1827, put on Livery 1828.

Croucher, John. London. Clockmakers' Company. 1828. Cornhill.

Crucifix, John. London. Clockmakers' Company. 1712.

Crucifix, Robert. London. Clockmakers' Company. 1689-1725.

Crump, Henry. London. Clockmakers' Company. 1667.

Cruttenden, Thomas. London. Clockmakers' Company. 1677.

Cue, William. London. Clockmakers' Company. 1691.

Cuff, James. London. Clockmakers' Company. 1699.

Cuff, John. London. Clockmakers' Company. 1718.

Cufford, Francis. London. Clockmakers' Company. 1718.

Cumming, Alexander. London. 1732-1814. Born at Edinburgh about 1732. He went to London and settled there, having a shop in Leadenhall Street. He died at Pentonville in 1814. He wrote a book on clockwork, published 1766. He made a clock with a barometer attached for George III. He was allowed £200 a year to take care of it. Made Honorary Freeman of Clockmakers' Company 1781.

Cunningham, ——. Dublin. 1760.

Cuper, Josias. London. 1632.

Cupilliard, Morteau. 1780. Maker of small silver enamelled watch in Proctor collection.

Curson, George. London. Clockmakers' Company. 1756.

Curteen, William. London. Admitted Freeman 1766.

Curtis, John. London. Clockmakers' Company. 1671.

Curtis, John. London. About 1750. Maker of an eighteenth-century gold watch with double case, engraved and enamelled. In the collection of Robert Hoe, New York.

Cusin, Charles. Autun, France. 1587. Of Autun in Burgundy, settled in Geneva, as a maker of watches which

were sold for their weight in gold. This was the beginning of the making of watches in Switzerland.

Cuthbert, Amariah. London. Clockmakers' Company. 1694.

Cutting, Christopher. London. Clockmakers' Company. 1694.

Cuy, Nicholas. Paris. Maker of a round silver-gilt watch in Bernal collection.

D

Dainy, John. London. Clockmakers' Company. 1720.

Daleizette, Panrier. Ferney, France. 1770.

Dalgleish, John. Edinburgh. 1742-70. Founder of a great business.

Dalton, John. London. Clockmakers' Company. 1788-1828. Red-lion Street. Clerkenwell.

Daniel, Robert. London. Clockmakers' Company. 1708.

Daniel, Stephen. London. Clockmakers' Company. 1698.

Daniel, Thomas. Kirkham, England. 1775.

Daniell, Edward. London. Clockmakers' Company. 1648.

Daniell, Isaac. London. Clockmakers' Company. 1648-75. Warden 1674.

Daniell, Thomas. London. 1656.

Daniell, William. London. 1632.

Dargent, James. London. Clockmakers' Company. 1700.

Darling, Robert. London. Admitted to Livery 1766. Elected master same year, but was excused from serving by paying £10.

Darvil, George. London. 1766.

Dauthieu, ——. Paris. 1735-50. "Clockmaker to the King."

Davidson, C. London. 1725.

Davis, Benjamin. London. Clockmakers' Company. 1678.

Davis, George. London. Clockmakers' Company. 1720.

Davis, Jeffry. London. Clockmakers' Company. 1690.

Davis, John. London. Clockmakers' Company. 1653.

Davis, John. London. Clockmakers' Company. 1697.

Davis, Samuel. Lothbury. 1648-60. His work was not up to standard, so some clocks were destroyed and he was fined 40s.

Davis, Samuel. London. 1674. Beadle of Clockmakers' Company. Discharged for neglect of duty 1680.

Davis, Thomas. London. Clockmakers' Company. 1674.

Davis, Thomas. London. Clockmakers' Company. 1725.

Davis, Tobias. London. Clockmakers' Company. 1653.

Davis, William. London. Clockmakers' Company. 1699.

Davis, William. London. Clockmakers' Company. 1812. Newgate Street.

Davis & Bennett. London. 1790.

Davison, William. London. Clockmakers' Company. 1686.

Davy, Samuel. London. 1790.

Dawkes, John. London. Clockmakers' Company. 1707.

Dawson, John. London. Clockmakers' Company. 1689.

Dawson, Robert. London. Clockmakers' Company. 1678.

Dawson, Thomas. London. 1630. In 1639 he was one of the stewards for that year.

Dawson, Thomas. London. Clockmakers' Company. 1732.

Dawson, William. London. Clockmakers' Company. 1802-28. Gutter Lane.

Day, Edmund. London. Clockmakers' Company. 1692.

Day, Isaac. London. Clockmakers' Company. 1678.

Day, Samuel. London. 1790.

Day, Thomas. London. Clockmakers' Company. 1691. Warden.

Deakin, ——. London. 1750.

Death, ——. London. 1750.

Deane, George. London. Clockmakers' Company. 1671.

De Baghyn, A. Amsterdam. 1750.

Debaufre, Jacob. London. 1704. Joined with his brother in trying to obtain patent.

Debaufre, James. London. Clockmakers' Company. 1712.

Debaufre, Peter. London. 1689-1704. Applied for a patent for using jewels in watches. In the London Gazette for May 11, 1704. (*See* Kendal, "History of Watches," page 118.)

De Charmes, David. London. Clockmakers' Company. 1692.

De Charmes, Simon. London. Clockmakers' Company. 1691-1710. A Frenchman settled in London.

Decka, John. London. Clockmakers' Company. 1757-90.

Dee, William. London. Clockmakers' Company. 1729.

De Fealins, Jehan. Rouen. 1389.

De Jersey, ——. London. 1810.

De Kniper, Marinus. Herlingen, Holland. 1740.

Delafosse, Samuel. London. Clockmakers' Company. 1692. A Frenchman settled in London.

Delafueille, E. Paris. 1610.

Delander, Daniel. London. Clockmakers' Company. 1699. Maker of fine watches.

Delander, James. London. 1668. A great clockmaker.

Delander, John. London. Clockmakers' Company. 1705.

Delander, Nathaniel. London. 1668-82. One of the celebrated clockmakers of his century. In 1682 he was called before the company to

answer charge of making a watch-case "not of the fineness appointed for Goldsmiths' work."

Delander, Nathaniel. London. 1721. Warden 1745, 46. Master 1747.

De Landre, Roger. London. Clockmakers' Company. 1641.

Delandre, James. London. Clockmakers' Company. 1668.

De La Porte, ——. Delft. 1750.

Delassalle, James Thomas. London. Clockmakers' Company. 1826. Cannon Street.

Delaunce, James. London. Clockmakers' Company. 1677.

Delaundre, Peter. London. Clockmakers' Company. 1640.

Delaversperre, William. London. Clockmakers' Company. 1650.

De Leibnitz, G. W. Leipzig. 1675.

De Lisle et Frère. Moricaud, France. 1750.

Delle, J. N. Augsburg. 1732.

Delmar, Edward. London. Clockmakers' Company. 1827-33. London Street, Fenchurch Street.

De Lorme, ——. Paris. 1740. Maker of Lord Nelson's watch, given by him to Captain Rose of the Victory. Exhibited in America at Columbian Exposition.

Denham, John F. London. 1842.

Dennis, Francis. London. Clockmakers' Company. 1673.

Dennis, Peter. London. Clockmakers' Company. 1712.

Dent, E. J. London. Born 1790, died 1853. Maker of the Westminster clock.

Dent, John. London. Clockmakers' Company. 1831. Strand.

Dent, Robert. London. Clockmakers' Company. 1681.

Dent, William. London. 1674. One of the great makers of his time.

De Pulter, ——. Amsterdam 1723.

Derabours, Geneva. Seventeenth century. Maker of fine gold watch with figure in blue enamel on white placques.

Derdier, ——. Paris. Eighteenth century. Maker of ormolu clocks.

Derham, William. Windsor. Born 1657, died 1735. Born near Worcester, became Canon of Windsor, wrote "The Artificial Clockmaker, or a Treatise of Watch and Clockwork."

Dermere, Abraham. London. Clockmakers' Company. 1703.

Dervitt, ——. London. 1750.

Desarts et Cie. Geneva. 1775.

Desbois, Jacob. London. Clockmakers' Company. 1730.

Desbois & Wheeler. London. 1790-1810.

Desborough, Christopher. London. Clockmakers' Company. 1666.

Desbrow, Robert. London. Clockmakers' Company. 1704.

De Servière, N. G. Lyons. 1650.

De St. Leu, Daniel. London. 1770-90. "Watchmaker to her Majesty."

Dettacher, John. London. Clockmakers' Company. 1660.

Deuchesne, P. Paris. 1740.

De Vick, Henry. Paris. 1364.

Devis, John. London. 1760-81. Made a freeman of Clockmakers' Company 1781.

Dexter, M. London. 1780.

Dickens, John. London. Clockmakers' Company. 1688.

Dickenson, ——. Liverpool. 1700.

Dickinson, John. London. Clockmakers' Company. 1796. Doctors' Commons.

Dicker, Thomas. Reading. 1797. Maker of an "Act of Parliament" clock.

Dickie, A. Stirling. 1755-80.

Diebold, J. Augsburg. 1741.

Dienster, ——. Amsterdam. 1700.

Dieu, R. Paris. 1575.

Dike, Nathaniel. London. Clockmakers' Company. 1663.

Dingley, Robert. London. 1668-90. Maker of a very splendid watch having portraits of Earl of Rochester and Charles II. It was formerly in the Bernal collection.

Dingley, Robert. London. Clockmakers' Company. 1738.

Dinis, Francis. London. Clockmakers' Company. 1666. He was an engraver.

Dixon, James. London. Clockmakers' Company. 1791. Maid Lane, Southwark.

Dixon, William. London. Clockmakers' Company. 1840.

Dobb, William. London. Clockmakers' Company. 1646.

Dobson, Alexander. London. 1760.

Dobson, Thomas. London. Clockmakers' Company. 1786. Rosoman's Street, Clerkenwell.

Dobson, William. London. Clockmakers' Company. 1670. A great clockmaker.

Dodds, Joseph. London. Clockmakers' Company. 1796-1820. Aldersgate Street.

Dodds, Joseph. London. Clockmakers' Company. 1830. Retreat Place, Hackney.

Dodsworth, John. London. Clockmakers' Company. 1648.

Dolley, John. London. Clockmakers' Company. 1804. Red Cross Street.

Dolley, Thomas. London. 1796-1808. Warden 1805, 06, 07. Master 1808. Primrose Hill.

Dorill, Francis. London.

Clockmakers' Company. 1702. Long-case clocks.

Dorrell, Francis. London. Clockmakers' Company. 1755.

Dorrell, William. London. Clockmakers' Company. 1787. Bridgewater Square.

Dossett, Gregory. London. Clockmakers' Company. 1662.

Doughty, Thomas. London. Clockmakers' Company. 1696.

Dove, Arthur. London. Was apprenticed to William Clay and admitted to Clockmakers' Company 1659.

Dove, Henry. London. Clockmakers' Company. 1667.

Dove, Robert. London. Clockmakers' Company. 1671.

Downes, John. London. Clockmakers' Company. 1725.

Downes, Robert. Clerkenwell. 1790. Mahogany tall clock with silvered face.

Downie, William. Edinburgh. 1795.

Downing, Humphrey. London. 1672.

Dowsett, Jeremiah. London. Clockmakers' Company. 1708.

Dowson, John. London. 1780. "Gray's Inn, London."

Drake, John. London. 1639-50. Was fined £10 for not binding his apprentice to a Freeman of the Clockmakers' Company.

Draper, James. London. Clockmakers' Company. 1712.

Draper, John. London. Clockmakers' Company. 1703.

Draper, John. London. Clockmakers' Company. 1796. Albemarle Street, Clerkenwell.

Draycott, Francis. London. Clockmakers' Company. 1678.

Drew, Edward. London. Clockmakers' Company. 1692.

Drew, John. London. Clockmakers' Company. 1684.

Drew, John. London. 1712. Beadle of Clockmakers' Company.

Driaen, A. Rotterdam. 1625.

Droeshout, John. London. Clockmakers' Company. 1632.

Drossati, Samuel. London. Clockmakers' Company. 1675.

Drummond, John. Edinburgh. 1794.

Drury, Henry L. London. 1777-1800.

Drury, James. London. Clockmakers' Company. 1694-1740. Warden 1725, 26, 27. Master 1728.

Drury, James. London. Clockmakers' Company. 1780. Red Lion Street, Clerkenwell.

Drury, John. London. Clockmakers' Company. 1720.

Drysdale, William and Walter. Edinburgh. 1786-1825. A capable firm of both long case and bracket clocks.

Dubié, ——. Paris. 1635.

Du Bois et Fils. Hanover. 1750.

Dubois et Fils. Paris. 1780.

Dubuc, ——. Paris. 1805. Maker of small mantel clocks, gilt. Sent to America those with figures of Washington and Franklin.

Ducastel, Isaac. London. Clockmakers' Company. 1703.

Duchene, Luigui, et Fils. Switzerland. 1790. Maker of gold watch in form of a lyre. Bernal collection.

Duchesne, Claude. London. Clockmakers' Company. 1693-1720. From Paris.

Ducimin, J. Amsterdam. 1625.

Ducomun, Charles. "Dit Boudrile." 1780.

Ducommun, F. Chaux-de-Fonds. 1794-1846.

Dudds, Joseph. London. Clockmakers' Company. 1750-70. Coleman Street. Maker of watch in crystal and cut steel in Tzar's collection.

Dudson, Simon. London. Clockmakers' Company. 1653.

Duduict, Jacques. Blois. 1630.

Duet, Pierre. Paris. 1750.

Dufalga. Paris. 1780. Watch by him in collection of Robert Hoe. Richly enamelled and incrusted with diamond sparks.

Dufour, Pierre. Paris. 1610. Maker of a small round silver-gilt watch with outer case of black shagreen, in Bernal collection.

Dufour, ——. Paris. 1730. Watch by him in Tzar's collection.

Duhamel, Isaac. London. 1785. A famous maker of bracket clocks. There is a clock in Buckingham Palace made by Duhamel in a rosewood and kingwood case 9 ft. 10 in. high, Louis XV. style.

Duhamel, Pierre. Blois. 1680. Maker of a watch enamelled in blue, with border of coloured flowers, Bernal collection.

Duke, Joseph. London. Clockmakers' Company. 1682. Apprentice to Markwick.

Duke, Joseph. London. Clockmakers' Company. 1728.

Duke, George. London. 1835.

Dulin, William Thomas. London. Clockmakers' Company. 1818-30. Cornhill.

Dumslin, ——. Calais. 1750.

Dunball, Richard. London. Clockmakers' Company. 1812. Skinner's Street, Somer's Town.

Duncombe, Richard. London. Clockmakers' Company. 1786. No. 289 Strand.

Duncombe, Richard, Jr. London. Warden 1795, 96, 97. Master 1798.

Dunkerley, Samuel. London. 1770.

Dunlop, Andrew. London. Clockmakers' Company. 1701.

Dunlop, Anne. London. 1760. Excelled at watchmaking.

Dunlop, Conyers. London. Warden 1755, 56, 57. Master 1758. Admitted to livery 1766. Left £50 for piece of plate 1779, but company did not receive legacy.

Dunn, Anthony. London. Clockmakers' Company. 1719.

Dunn, Henry. London. Clockmakers' Company. 1677.

Du Pin, Paul. London. 1739.

Duplock, Charles. Borough. 1812.

Duplock & Wiggins. London. 1815-30.

Dupont à Castres. 1640. Maker of a watch in Bernal collection.

Durand, ——. Paris. 1750. Maker of fine clocks in ormolu.

Durant, Oswald. London. 1630-55. He left the "Imbroiderers Company" and was "translated" to the Clockmakers' Company in 1636.

Durdent, Andrew. London. Clockmakers' Company. 1662.

Durnbill, ——. London. 1650.

Dutton, Matthew. London. 1786-1802. Warden 1707, 98, 90. Master 1800.

Dutton, Matthew. London. 1820-40.

Dutton, Thomas. London. Clockmakers' Company. 1796. Fleet Street.

Dutton, William. London. Apprenticed to George Graham. 1746-90. Became a partner of Thomas Mudge in 1750. Took up livery 1766.

Duval, John. London. Clockmakers' Company. 1677.

Dwerrihouse, John. London. 1775-90. Took up livery 1781.

Dyson, John. London. Clockmakers' Company. 1694.

E

Eagle, John. London. Clockmakers' Company. 1690.

Earle, Thomas. London. Clockmakers' Company. 1720.

Earnshaw, Thomas. London. Born 1749, died 1829. He lived in High Holborn, and made many improvements in chronometers. In 1781 he used the improved spring detent. In 1802 he made still greater improvement in chronometers by using a single balance instead of two combined. He was one of the unsuccessful competitors for the Board of Longitude reward, but received £3000 for his labours. Was born at Ashton-under-Lyne.

East, Edward. London. Clockmakers' Company. 1630. Charter member. One of the ten original assistants appointed by the Articles of

Incorporation in 1630. A noted watchmaker, he lived in Pall Mall, near the Tennis Court. He was Warden in 1639, Master in 1645 and 1652. He was appointed Treasurer in 1687, and was the only occupant of that office. He is mentioned as King's Watchmaker in "Memoirs of the two last Years of the Reign of that unparalleled Prince, of ever blessed memory, King Charlese I."

East, Edward, 2. London. Clockmakers' Company. 1696. Apprenticed to D. Lyon and later to S. Clyatt.

East, Edward, 3. London. Clockmakers' Company. 1709. Apprenticed to Thomas East.

East, Jeremy. London. 1641. Signed a petition to the Lord Mayor about the grievances of the apprentices, 1656.

East, Jordan. London. Clockmakers' Company. 1724.

East, Peter. London. Clockmakers' Company. 1692.

East, Thomas. London. Clockmakers' Company. 1677.

Eayre, Thomas. Kettering. 1740-80. He also invented a sort of carriage speedometer.

Ebsworth, Christopher. London. Clockmakers' Company. 1670.

Ebsworth, John. London. Clockmakers' Company. 1665. Warden 1694, 95, 96. Master 1697. Lived in "New Cheap Side," and made many excellent clocks.

Eden, William. London. Clockmakers' Company. 1726.

Edlin, George. London. Took up Livery 1810.

Edlin, John. London. Clockmakers' Company. 1687.

Edmunds, J. London. 1750.

Edmunds, J. London. 1825.

Edsolf, H. A. Friedburg. 1732.

Edwards, Isaac. London. Clockmakers' Company. 1719.

Edwards, J. Stourbridge. 1851.

Edwards, J. T. Dudley. 1851. Maker of clocks requiring one winding in 426 days.

Edwards, S. Ashley. About 1800.

Effington, John. London. Clockmakers' Company. 1702.

Egleton, Christopher. London. 1695-1730. Was apprenticed to Charles Halstead. Freeman 1695.

Eisen, H. Nuremberg. 1503.

Eldridge, John. London. Clockmakers' Company. 1677.

Eley, James. London. Clockmakers' Company. 1780-90. Fenchurch Street.

Elfis, Benjamin. London. Clockmakers' Company. 1674.

Elkins, William. London. Clockmakers' Company. 1709.

Ellet, William. London. 1771.

Ellicott, Edward. London.

Clockmakers' Company. 1796. Royal Exchange.

Ellicott, John. London. 1696-1733. Warden 1731, 32. Died 1733.

Ellicott, John, 2. London. Born 1706. Son of John Ellicott, was clockmaker to George III., member of the Royal Society in 1738. In 1752 invented a compensated pendulum. He died 1772. The Clockmakers' Company have an eight-day bracket clock by him and two watches. Maker of a gold repeating watch in Tzar's collection, with date letter on it. Maker of a fine pair-case gold watch, with outer case showing Venus and Neptune in high relief. In the Robert Hoe collection, New York.

Ellicott, John, & Son. London. 1770-81.

Ellicott & Taylor. London. 1810-30.

Elliott, Henry. London. Clockmakers' Company. 1688.

Ellis & Son. Exeter. 1851.

Ellis, James. London. Clockmakers' Company. 1667.

Ellis, John. London. Clockmakers' Company. 1726.

Ellis, John. London. Clockmakers' Company. 1822. Bread Street.

Ellis, Paul. London. Clockmakers' Company. 1682.

Ellis, Thomas. London. Clockmakers' Company. 1682.

Ellwood, John. London. 1702-25. Maker of long-case clocks.

Ellwood, Martin. London. 1700. Admitted to Clockmakers' Company 1687.

Elmes, William. London. 1667. Made straight and jointed rules which were seized by the company, 1671.

Elson, David. London. Clockmakers' Company. 1646.

Elton, John. London. Clockmakers' Company. 1675.

Elwood, John. London. Clockmakers' Company. 1702.

Emery, Josiah. London. 1781-93. Had a shop at Charing Cross, was a distinguished clock and watch maker. Made an honorary freeman of Clockmakers' Company 1781.

Emmett, Thomas. London. Clockmakers' Company. 1820. Great Sutton Street.

Enderlin, ——. Basle. 1719-72. Maker of equation clocks.

Engall, Abraham. London. Clockmakers' Company. 1648.

Engelbrecht, Lorentz. Vienna. 1700.

Engelschalk, F. Wurzburg. 1734.

Engelschalk, I. Wurzburg. 1794.

Engin, F. London. 1750.

Ennis, Edward. London. Clockmakers' Company. 1658.

Enys, Edward. London. Clockmakers' Company. 1684.

Erbery, Henry. London. 1656.

Erhardt, John Christopher. 1720. Maker of a round silver watch showing hours and days of month on movable plates, minutes engraved in large numerals. Bernal collection.

Eric, William. London. Clockmakers' Company. 1730.

Ericke, Robert. London. Clockmakers' Company. 1719.

Ernst, I. Augsburg. 1775.

Ernst, J. I. Augsburg. 1756.

Ernst, L. Augsburg. 1770.

Eston, Edward. London. Clockmakers' Company. 1708.

Esquivillon Frères et De Choudens. Paris. 1780. Maker of choice enamelled watches, handsome one in copper gilt case in Proctor collection.

Ester, J. H. France. 1635. Oval pear-shaped crystal watch, Bernal collection.

Etchinger, Hans Conrat. Amsterdam. 1640.

Etherington, George. London. 1684-1730. Warden 1706, 07, 08. Master 1709. Maker of tall clocks.

Etty, Marmaduke. London. Clockmakers' Company. 1716.

Evans, Henry. London. Clockmakers' Company. 1682.

Evans, James. London. 1780. Fine long-case clock at Rhode Island School of Design. The dial is marked "Diego Evans, Bolsa Real, Londres." It seems probable that the case was made in Spain.

Evans, Thomas. London. Clockmakers' Company. 1673.

Evans, Thomas. London. Clockmakers' Company. 1718.

Evans, Thomas. London. Clockmakers' Company. 1720.

Evans, Thomas S. London. Made Honorary Freeman 1813, in view of his "exertions towards the improvement of the Art of Chronometry."

Evill, James. Bath. 1750. Maker of a clock in Philadelphia Historical Society.

Evill, William. Bath. 1750. Joined with his brother in partnership.

Exelby, James. London. Clockmakers' Company. 1718.

Eyba, J. Leiterschofen. 1770.

Eyre, John. London. Clockmakers' Company. 1703.

Eyston, Edward. London. Clockmakers' Company. 1659.

F

Facio, Nicholas. Basle. Born 1664, died 1703. A famous Swiss watchmaker, who died in England. He invented the jewelling of watches.

Fage, Edward. London. Admitted to Clockmakers' Company 1667.

Fairbairn, Andrew. Edinburgh. 1807-25. Maker of long-case clocks.

Faircloth, Thomas. London. Clockmakers' Company. 1660.

Fairman, Thomas Henry. London. Clockmakers' Company. 1796-1811. Pitt Field, Newington, Surrey.

Falcke, J. Heinrich. Leipzig. 1750.

Falks, Robert. London. Clockmakers' Company. 1723.

Farewell, John. London. Clockmakers' Company. 1697.

Farfier, S. Nuremberg. 1633-89.

Farley, John. Southwark. 1790.

Farmer, Richard. London. Clockmakers' Company. 1684.

Farmer, Thomas. London. Clockmakers' Company. 1647.

Farmer, Thomas, 2. London. Clockmakers' Company. 1653.

Farmer, Thomas. London. Clockmakers' Company. 1689.

Farr, Thomas. Bristol. 1816.

Farrett, Richard. London. Clockmakers' Company. 1670.

Farron, Robert. London. 1781.

Faulkener, Edward. London. Clockmakers' Company. 1702.

Faulkener, Edward. London. Clockmakers' Company. Warden 1732, 33. Master 1734.

Faulkener, William. London. Clockmakers' Company. 1796-1811. Shoe Lane.

Fearon, Daniel. London. Clockmakers' Company. 1776.

Feilder, Thomas. London. Clockmakers' Company. 1689. Warden 1712, 13, 14. Master 1715.

Feirer, J. B. Augsburg. 1768.

Fell, John. London. Clockmakers' Company. 1727.

Fell, William. London. Clockmakers' Company. 1705.

Felter, Nicholas. London. Clockmakers' Company. 1632.

Felter, Thomas. London. Clockmakers' Company. 1709.

Fenn, Daniel. London. Clockmakers' Company. Warden 1763, 64, 65. Master 1766. Put on the livery 1766. Newgate Street

Fenn, Daniel, 2. London. Clockmakers' Company. Warden 1788, 89, 90. Master 1791.

Fenn, Joseph. London. Clockmakers' Company. 1822. Newgate Street. Warden 1836, 37, 38, 39, 40, 41. Master 1842, 43.

Fenn, Robert. London. Clockmakers' Company. 1689.

Fenn, Samuel. London. Clockmakers' Company. 1767-1821. Warden 1790, 91, 92. Master 1793. Legacy to Company of £200. Died 1821.

Fennel, Richard. London.

Clockmakers' Company. 1679-1700.

Fenner, R. London. 1750.

Fenton, John. London. Clockmakers' Company. 1662.

Ferguson, James. Born 1710, died 1776. Designed curious clocks and astronomical timekeepers. He was a shepherd lad and rose through natural ability and perseverance.

Ferment, John. London. Clockmakers' Company. 1679.

Ferron, John. London. 1692-1710. Maker of repeating watches in enamel cases.

Ferron, Lewis. London. 1720. Maker of long-case clocks.

Ferron, Michael. London. Clockmakers' Company. 1786. Philpot Lane. In 1821 at Great Missenden, Bucks.

Ferror, John. London. Clockmakers' Company. 1693.

Ferrot, Philip. Paris. 1775.

Festeau, ——. Paris. About 1800. Maker of an alabaster clock in architectural style. In the Robert Hoe collection, New York.

Fetters, Henry. London. Clockmakers' Company. 1653.

Feurer, F. Augsburg. 1803.

Fiacre, Clement. Paris. 1700.

Ficke, J. Henry. Bremen. 1810-80.

Fidgett, William. 1789-1825. Dockhead, Bermondsey. He became a member of Clockmakers' Company 1789.

Field, John. London. About 1780. Bucklesbury. Maker of fine clock in ebony case mantel, Gilbert collection, U. S.

Field, John. Hitchin. About 1810.

Field, William. London. Clockmakers' Company. 1733.

Fiet, J. Rotterdam. 1765.

Filton, Charles. London. Clockmakers' Company. 1674.

Finch, John. London. Clockmakers' Company. 1675. Warden 1703, 04, 05. Master 1706.

Finch, Robert. London. Clockmakers' Company. 1691.

Finch, Simon. London. Clockmakers' Company. 1706.

Finch, Thomas. London. Clockmakers' Company. 1676.

Finch, William. London. Clockmakers' Company. 1691.

Finelly à Aix. 1560.

Finnie, Henry. London. Clockmakers' Company. 1728.

Finney, J. Liverpool. 1750.

Fischer, Conrad M. Atrolzback. 1760.

Fischer, J. London. 1775.

Fish, H. London. 1730-70. Royal Exchange. Maker of a pair-case gold watch with repoussé outer case. In the Robert Hoe collection, New York.

Fish, John. London. Admitted

to Clockmakers' Company 1766. He was bound to his mother, Mary Fish, as apprentice for seven years, and admitted on the expiration of his time.

Fish, Robert H. London. Clockmakers' Company. 1828. Mill Street. Conduit Street.

Fisher, Ebenezer. London. Clockmakers' Company. 1725.

Fisher, Rebekah. London. Clockmakers' Company. 1715. Bound apprentice for seven years to George Taylor and Lucy his wife.

Fishwater, John. London. Clockmakers' Company. 1726.

Fitter, John. London. 1665-1700. Made a watch which belonged to John Bunyan.

Fitter, Thomason. London. 1760-81.

Flacktem, E. London. 1750.

Fladgate, John. London. Admitted to Clockmakers' Company 1781.

Fladgate & Wilder. London. 1765.

Flameyer, B. London. 1760.

Flant, ——. Maker of a watch dated 1610, Bernal collection.

Fleetwood, Robert. London. 1781.

Fleigl, Joseph, à Stadt-am-hof. Late eighteenth century. Maker of a silver watch repeater with tortoise-shell outer case, in Mrs. G. A. Hearn's collection.

Fleming, Andrew. London. Clockmakers' Company. 1725.

Fleming, Curtis. London. Clockmakers' Company. 1786. Stratford, Essex.

Fletcher, Daniel. London. Clockmakers' Company. 1646.

Fletcher, Edward. London. Clockmakers' Company. 1697.

Fletcher, Thomas. London. 1676. Had summons served on him for having bound apprentices irregularly in 1682.

Fleureau, Esoye. 1710. Maker of clocks in "spider web" and "sea weed" marquetry cases.

Flieger, H. Augsburg. 1785.

Flood, Humphrey. London. 1610. Made a watch for James I.

Flower, Thomas. London. Clockmakers' Company. 1730.

Fole, Robert. London. An instrument maker admitted to Clockmakers' Company 1667.

Follett, Mary. London. 1725.

Foote, William. London. Clockmakers' Company. 1726.

Ford, Thomas. London. Clockmakers' Company. 1724.

Ford, William. London. Clockmakers' Company. 1700.

Fordham, Thomas. London. Clockmakers' Company. 1689.

Foreman, Francis. London. Clockmakers' Company. 1631-50. One of the first assistants.

Forman, Michael. London.

Clockmakers' Company. 1810-32. Bedford Street, Strand.

Forfard, Augustin. Sedan. 1650.

Forrest, Joseph. London. Clockmakers' Company. 1692.

Forster, Clement. London. Clockmakers' Company. 1682.

Forster, John. London. Clockmakers' Company. 1689. Apprentice to Daniel Quare.

Forster, John. London. Clockmakers' Company. 1726.

Forster, Joseph. London. Clockmakers' Company. 1691.

Forster, William. London. Clockmakers' Company. 1681.

Forte, John. London. Clockmakers' Company. 1672.

Forten, ——. Paris. 1750.

"Fortin à Paris." 1769. Large boule bracket clock, ornamented with brass inlaid on dark shell.

Foster, Robert. London. Clockmakers' Company. 1805. Long Lane, Bermondsey.

Foulger, Samuel, Jr. London. Clockmakers' Company. 1812. Ratcliffe Highway.

Fourdain, W. London. 1750.

Fowll, Edward. London. Clockmakers' Company. 1670.

Fox, Charles. London. 1660. On some of his dials is this inscription: "Chas. Fox at the Fox, Lothbury Londini. Fecit."

Fox, Isaac. London. 1772-81. Table clock by him owned in Connecticut.

Fox, Mordecai. London. Clockmakers' Company. 1689. A great clockmaker.

Foy, ——. Taunton, England. 1790.

Framborough, Edward. London. Clockmakers' Company. 1689.

Franc, Thomas. Nuremberg. 1600.

Francis, Bulmer. London. Clockmakers' Company. 1731.

Francis, William. London. Clockmakers' Company. 1810. Peter Street, Cow Cross.

Franklin, William. London. Clockmakers' Company. 1712.

Franklin, William. London. Clockmakers' Company. 1731.

Franklin, William. London. Clockmakers' Company. 1810.

Frazer, ——. Bond Street. 1788.

Frearson, John. London. Clockmakers' Company. 1689.

Free, J. Oxford. 1760.

Freeman, Edward. London. 1697.

Freeman, James. London. Clockmakers' Company. 1719.

Freeman, John. London. Clockmakers' Company. 1646-80.

Freeman, Stafford. London. Clockmakers' Company. 1664.

Freeman, Thomas. London. Clockmakers' Company. 1698.

Fremin, ——. London. 1690.

French, Edward. London. Clockmakers' Company. 1812. Newcastle Place, Clerkenwell.

French, John. London. Royal Exchange. Admitted Clockmakers' Company 1782.

French, James Moore. London. Clockmakers' Company. 1810. Sweeting's Alley, Cornhill.

Frencham, James. London. Clockmakers' Company. 1698.

Frerer, Amalric. Switzerland. 1795.

Freshfield, Frederick. London. Clockmakers' Company. 1817-39. Tokenhouse Yard.

Freshfield, James. London. 1770.

Freshfield, James William. London. Clockmakers' Company. 1801-20. Tokenhouse Yard.

Frey, A. Oberhausen. 1770.

Frippett, John. London. Clockmakers' Company. 1668.

Frodsham, Charles. London. 1842-71. Warden 1850, 51, 52, 53, 54. Master 1855.

Frodsham, John. London. Clockmakers' Company. 1830-42. Gracechurch Street.

Frodsham, William. London. 1781.

Frodsham, William James. London. Clockmakers' Company. 1802-50. Warden 1830, 31, 32, 33, 34. Master 1836, 37. He died 1850 and left £1000 to the Company.

Fromantel or Fromantell, Abraham. London. Clockmakers' Company. 1680. Son of Ahasuerus.

Fromanteel, Ahassuerus. London. 1630. Clockmakers' Company. 1632. This distinguished Dutch clockmaker settled in London and introduced the use of the pendulum in England.

Fromanteel, Ahassuerus. London. Probably son of Ahassuerus 1. Admitted to clockmakers' Company 1655.

Fromanteel, Ahasuerus. London. Clockmakers' Company. 1663. Once apprenticed to Thomas Loomes.

Fromanteel & Clarke. London. 1680-1710. A clock by them in the Pendleton collection, Providence, R. I.

Frost, John. London. Clockmakers' Company. 1817-39. Short's Buildings, Clerkenwell.

Frowde, John. London. Clockmakers' Company. 1653.

Fruet, André, à Paris. 1850. Boule clock with bracket in Louis XV. style, Robert Hoe collection, New York.

Fuller, William. London. Clockmakers' Company. 1675.

Furets, ——. Paris. 1780. Maker of very elaborately

cased clocks, in Sèvres, ormolu and marble.

Furnifull, Richard. London. Clockmakers' Company. 1722.

Furstenfelden, G. Freiburg. 1770.

Fury, Flack. London. Clockmakers' Company. 1658.

G

Gabrier, Charles. London. 1700. On a rich enamelled watch in Bernal collection. May be intended for Cabrier.

Gagnebin, D. Chaux-de-Fonds. 1760 or later.

Gambell, Thomas. London. Clockmakers' Company. 1656.

Gamrod, G. Paris. 1640.

Ganthony, Richard. London. 1794-1829. Warden 1825, 26, 27. Master 1828, 29.

Ganthony, Richard Pinfold. London. 1821-44. Warden 1838, 39, 40, 41, 42, 43. Master 1844. Died in office.

Gany, Thomas. London. Clockmakers' Company. 1699.

Garden, William. London. Clockmakers' Company. 1712.

Garden, Philip. London. 1760.

Gardener, John. London. Clockmakers' Company. 1682.

Gardiner, John. London. Clockmakers' Company. 1687. Croydon.

Gardner, Obadiah. London. Clockmakers' Company. 1711.

Gardner, Patrick. Perth. 1813.

Gardner, Thomas. London. Clockmakers' Company. 1687. A clock by him is owned by Mr. W. Hosmer, Weathersfield, Mass.

Gardner, Timothy. London. Clockmakers' Company. 1744.

Garfoot, William. London. Clockmakers' Company. 1680.

Garland, John. London. Clockmakers' Company. 1766-98. Barbican.

Garle, Thomas. London. 1766-76. Warden 1768. Master 1769. Put on livery 1766. Bennett's Hill.

Garnard, R. London. 1830.

Garon, Peter. London. Clockmakers' Company. 1680-94.

Garret, Ferdinando. London. 1560.

Garrett, Charles. London. Clockmakers' Company. 1690.

Garrett, Charles. London. Clockmakers' Company. 1720.

Gascoyne, Samuel. London. Clockmakers' Company. 1676.

Gasslin, J. Paris. 1750.

Gatward, ——. Hitchin, England. 1790.

Gauderon, ——. Paris. 1700. Maker of copper gilt case watch in Proctor collection.

Gaunt, John. London. Clockmakers' Company. 1824-40. Bridgewater Gardens.

Gaus, ——. Nuremberg. 1600.

Gavelle, James. London. Clockmakers' Company. 1683-1700. An alien.

Gaze, Peter. London. 1840-92. Liverpool Road.

Gebert, Henry. Strasbourg. 1660. A fleur-de-lys shaped watch, with crystal front, Bernal collection.

Gebhart, Henry. Strasbourg. 1760.

Gehaleberg, Johannes. On a long-case clock owned by Benj. Marot, Dayton, Ohio.

Geissler, F. Augsburg. 1748.

Geist, T. N. Augsburg. 1793.

Gegenreiner, F. Augsburg. 1725.

Gells, Thomas. London. Clockmakers' Company. 1720.

George, Richard. London. Clockmakers' Company. 1697-1712. Beadle of Clockmakers' Company.

Gernon, Bernard. London. Clockmakers' Company. 1659. Apprenticed to Solomon Wagson of Bristol.

Germuller, J. C. Augsburg. 1795.

Gerrard, John. London. 1735.

Gib, B. Rotterdam. 1720.

Gib, William. Rotterdam. 1730.

Gibbons, Benjamin. London. 1750-69. Left £110 to the Company.

Gibbons, John. London. Clockmakers' Company. 1811. King Street, Clerkenwell.

Gibbons, Henry. London. Clockmakers' Company. 1826. Carnaby Street, St. James.

Gibbons, Henry, 2. London. Clockmakers' Company. 1838. Potter's Fields, Southwark.

Gibbons, Richard. London. Clockmakers' Company. 1730.

Gibbs, Thomas. London. 1681-1711. Warden 1708, 09, 10. Master 1711.

Gibbs, Richard. London. Clockmakers' Company. 1819. Fish Street Hill.

Gibbs, Walter. London. Clockmakers' Company. 1648.

Gibbs, William. London. Clockmakers' Company. 1707-20.

Gibson, Edward. London. 1787-1802. Bishopsgate Street without. Warden 1799, 1800, 01. Master 1802.

Gibson, James. London. Clockmakers' Company. 1670. A great clockmaker.

Gibson, John. London. Clockmakers' Company. Royal Exchange, 1800-08.

Gide à Paris. 1760. This name is on a watch with case of Dresden china. Bernal collection.

Gideon, Robert. London. Clockmakers' Company. 1691.

Gifford, Thomas. London. Clockmakers' Company. 1693.

Gilbert, Charles. London. Clockmakers' Company. 1700.

Gilbert, Faustin. London. Clockmakers' Company. 1661.

Gilbert, William. London. Clockmakers' Company. 1695.

Gilchrist, Archibald. London. Clockmakers' Company. 1729.

Gilchrist, Stirling. London. 1755.

Gilkes, Richard. London. Clockmakers' Company. 1686.

Gill, John. London. Clockmakers' Company. 1707.

Gillander, J. London. 1750.

Gillelaine à Paris. 1770. Maker of a clock in drum-shaped case, with ormolu mounts, at Christie's, £388 10s.

Gilles, l'aîné, à Paris. 1740. Hanging clock in rosewood case, inlaid and with gilt mountings. In the Robert Hoe collection, New York, 1911.

Gillespy, C. Dublin. 1750.

Gillier, C. Berne. 1650.

Gillpine, Edmund. London. 1630. Was still at work in 1671.

Gills, Thomas. London. Clockmakers' Company. 1720.

Gougner, Anthony. London. Clockmakers' Company. 1687. Frenchman.

Ginn, George W. Rotterdam. 1750.

Ginn, William. London. Clockmakers' Company. 1699.

Girard à Caen. Eighteenth century. Maker of a fluted silver-gilt watch in Bernal collection.

Girard, Marc. Paris. 1610.

Girard, Theodore. Blois. 1620-80.

Girod, James. London. Clockmakers' Company. 1693. A Frenchman settled in London.

Giroud Fils. Vevay. 1675.

Giugner, Anthony. London. Clockmakers' Company. 1687.

Gladstone, Thomas. London. Clockmakers' Company. 1703.

Glazier, William. London. Clockmakers' Company. 1666.

Gleave, Matthew. 1700. A watch made by him in Guildhall Museum.

Glenny, Joseph. London. Clockmakers' Company. 1810. Red Lion Street, Clerkenwell.

Glossop, ——. London. 1750.

Glover, Boyer. London. Clockmakers' Company. 1740. Warden 1765, 66. Died in office.

Glover, Daniel. London. Clockmakers' Company. 1699.

Glover, John. London. Clockmakers' Company. 1700.

Glover, Richard. London. Clockmakers' Company. 1703.

Glover, Samuel. London. Clockmakers' Company. 1694.

Glover, Stephen. London. Clockmakers' Company. 1796. Great Russell Street, Covent Garden.

Gluck, Adam. Augsburg. 1650. Maker of tulip-shaped watch in Bernal collection.

Gluck, George. Berlin. 1610.

Glynn, Richard. London. Clockmakers' Company. 1705.

Goberry, M. London. 1755.

Gobert, Peter. London. Clockmakers' Company. 1687. A Frenchman settled in London.

Godbud, William. London. 1656. One of the Freemen who petitioned against allowing foreigners to work at the trade in the city.

Goddard, Benjamin. London. Clockmakers' Company. 1701.

Goddard, Benjamin, 2. London. Clockmakers' Company. 1727.

Goddard, John. London. 1618.

Goddard, Nicholas. Newark. 1710-20.

Godfrey, Henry. London. Clockmakers' Company. 1685.

Godney, J. London. 1825.

Godon à Paris. 1780. Maker of fine clocks in porcelain and ormolu cases.

Gold, Christopher. London. 1713. Beadle of Clockmakers' Company.

Gold, John. London. 1806-20. Fleet Street.

Goldsmith, John. London. Clockmakers' Company. 1681.

Goldsmith, John. London. Clockmakers' Company. 1720.

Goldsmith, William. London. Clockmakers' Company. 1719.

Golling, A. Augsburg. 1712.

Golling, A. B. Augsburg. 1770-80.

Golling, C. J. Augsburg. 1787.

Golling, J. M. Augsburg. 1745.

Golling, Johann. Augsburg. 1748.

Gom, David. Lyons. 1650.

Gont, William. London. 1790.

Good, John. London. Clockmakers' Company. 1678-1711.

Goodchild, John. London. Clockmakers' Company. 1726.

Goode, Charles. London. Clockmakers' Company. 1686.

Goodhugh, William. London. 1825.

Goodlad, Richard. London. Clockmakers' Company. 1689.

Goodman, George. London. 1771.

Goodwin, James. London. 1810-40.

Goodwin, Thomas. London. 1662. Clerk of company 1704.

Goodyear, John. London. Clockmakers' Company. 1722.

Goodyear, Joseph. London. Clockmakers' Company. 1732.

Gordon, John. London. Clockmakers' Company. 1695-1712.

Gordon, Thomas. Edinburgh. 1703-43. A master of the craft. Clocks with his name are occasionally found in America.

Gordon, Alexander. Dublin. 1780.

Gordon, Hugh. Aberdeen. 1750. Maker of a pair-case

gold watch, outer case repoussé. In the Robert Hoe collection, New York.

Gordon, Robert. Edinburgh. 1703-30.

Gordon, Thomas. London. About 1760. Maker of a gold watch with elaborate outer case by Thomas Hening. In the Robert Hoe collection, New York.

Gorsuch, Thomas. 1790. Long case clock, brass dial.

Goss, Jeremiah. London. Clockmakers' Company. 1667.

Goubert, James. London. Clockmakers' Company. 1690.

Gough, William. London. 1760.

Goujon, Stephen. London. Warden 1757, 58, 59. Master 1760.

Goujohn, Samuel. London. Clockmakers' Company. 1802. Newgate Street.

Gould, Abel. London. Clockmakers' Company. 1683.

Gould, Chester. London. Clockmakers' Company. 1780-1800. Red Lion Street, Clerkenwell.

Gould, Christopher. London. Clockmakers' Company. 1682.

Goullons à Paris. 1650. Maker of fine enamel watches, one of which was painted with Holy Family, brought at Christie's £190, in February, 1907.

Gout, Ralph. London. 1790-1800.

Gowland, James. London. 1835-80.

Graham, George. London. Born 1673, died 1751. Warden 1719, 20, 21. Master 1722. One of the greatest of English clockmakers, and a maker of mathematical instruments. He invented the dead beat escapement, in 1724 improved the horizontal escapement of Tompion, his master, and made the first Planetarium used in England. Elected F.R.S. 1720, he communicated several of his discoveries to the Society. He married Thomas Tompion's niece, and succeeded to the business in Fleet Street. He left by will £20 to the poor of the Clockmakers' Company. The Clockmakers' Company have a long-case eight-day clock and a watch by him in their Museum.

"Saturday evening, died suddenly, at his house in Fleet Street, Mr. George Graham, not less known in the learned world, than in the branch of Business to which for many Years he had so successfully applied himself, as by his uncommon Ingenuity to have acquired the Reputation of being the best Watchmaker in Europe.

He was many Years Fellow and one of the Council of the Royal Society. His Apparatus, made for measuring a Degree of the Meridian in the Polar Circle, is greatly esteemed among the Literati; as are also his many curious Instruments for Astronomical Observations. He lived beloved and died universally lamented."—*Daily Advertiser* (London), Nov. 18, 1751.

Grandjean, David H. Locle, Switzerland. Born 1774, died 1845.

Granger, Richard. London. Clockmakers' Company. 1695.

Grant, John, the elder. 1781-1810. Clockmakers' Company. Made an Honorary Freeman 1781, put on livery 1789, Assistant 1809, Junior Warden 1810, and died in office.

Grant, John. London. Clockmakers' Company. 1817. Warden 1833, 34, 35, 36, 37. Master 1838, 39, 40, 58, 67.

Grant, William. London. Clockmakers' Company. 1666.

Grantham, J. London. 1750-80. Maker of a pair-case gold watch, outer case repoussé and engraved in high relief. In the collection of Robert Hoe, New York.

Grape, John. London. 1720.

Graupner, J. P. Augsburg. 1675-1725.

Graupner, P. G. Augsburg. 1727.

Gravell & Tolkein. London. 1790-1820.

Gravell, William. London. 1820-50. Clockmakers' Company. Warden 1834, 35, 36, 37, 38, 39. Master 1840, 41.

Graves, Benjamin. London. 1676-1731. Warden 1702, 03, 04. Master 1705.

Gray, Adam. London. 1781. 5 Berkeley Street, Clerkenwell.

Gray, Benjamin. London. 1720-54. Clockmaker to George II.

Gray, James. Edinburgh. 1772-1822. "Clockmaker to His Majesty."

Gray, James, 2. Edinburgh. 1806-36. Succeeded to his father's business, also "his majesty's clock maker & repairer of his clocks & watches in Scotland."

Gray, John. London. 1760. Apprenticed to Thomas Hardy.

Gray, Joseph. "Shaston." Early eighteenth century. A movement by him in Clockmakers' Museum.

Gray, Timothy. London. 1633. A celebrated clockmaker of his time.

Gray, Benjamin & Vulliamy, Justin. London. 1737-57.

Gray & Constable. London. 1775.

"Graye, Mr." London. 1630. Clockmaker, also a subscriber to the charter fund of Clockmakers' Company.

Grayhurst, Harvey & Co. London. 1810-30. Maker of gold watch enamelled and set with pearls, Mrs. G. A. Hearn's collection.

Grayhurst, Peter. London. 1805. Charing Cross.

Greatorex, Henry. London. Clockmakers' Company. 1711.

Greatrex, Ralph. London. Clockmakers' Company. 1653.

Grebaunal, Robert, à Rouen. 1630.

Grebay, Phillipe, à Londres. 1610.

Grebay, Phillipe. Paris. 1670.

Green, James. London. Clockmakers' Company. 1664.

Green, James. London. Clockmakers' Company. 1685.

Green, James. London. 1755-94. Clockmakers' Company. Warden 1781, 82, 83. Master 1784. Philpot Lane.

Green, Joseph. London. Clockmakers' Company. 1723.

Green, Margaret. London. 1765-74.

Green, Robert. London. 1835.

Green, Samuel. London. Clockmakers' Company. 1796. Bunhill Row.

Green, William. London. Clockmakers' Company. 1802. Stockwell.

Green, William. London. Clockmakers' Company. 1824. Fish Street.

Green & Ward. London. 1793.

Greenaway, Richard. London. Clockmakers' Company. 1718.

Greene, James. London. Clockmakers' Company. 1685.

Greene, John. London. Clockmakers' Company. 1711.

Greenwood, G. London. 1817.

Gregg, Francis. London. 1697. Apprenticed to Thomas Morgan to serve John Clowes, 1691.

Gregory, James. "Ormskirk." 1740.

Gregory, Jeremy. London. Clockmakers' Company. 1652-85. Very active member of the company. Warden 1660, 61, 63, 64. Master 1665, 76. Gave a silver dish to the company 1653. Admitted to Clockmakers' Company 1652, died 1685.

Gregory, Jeremiah. London. Clockmakers' Company. 1694.

Gregory, Robert. London. Clockmakers' Company. 1678.

Gregory, Thomas. London. Clockmakers' Company. 1671.

Gregson, John. London. 1794-1800. "Watchmaker to Prince of Wales." Maker of Queen Charlotte's watch in Boston Museum of Fine Arts.

Gregson, Pierre, à Paris. 1780. Horloger du Roy. Louis XVI.

Gretton, Charles. London.

1672. Warden 1697, 98, 99. Master 1700. He gave in 1701 £50 to pay fifty shillings a year to apprentice the sons of deceased Freemen of the Company to the clock and watchmaking trade.

Gretton, William. London. 1665.

Gribelin, ——. Blois. 1600-14. Maker of a watch with perpetual dial.

Grice, Thomas. London. Clockmakers' Company. 1675.

Griffin, John. London. Clockmakers' Company. 1720.

Griffin & Adams. London. 1800-20.

Griffith, George. London. Clockmakers' Company. 1720.

Griffith, James. London. 1667. An instrument maker admitted to the Clockmakers' Company.

Griffith, Robert. London. Clockmakers' Company. 1706.

Griffiths, ——. Ludlow, England. 1800.

Griffiths, Edward. London. 1810. Admitted to the livery.

Griffis, P. Birmingham. 1760.

Grignion, Thomas. London. 1740-84. Covent Garden.

Grignion, Thomas, 2. London. 1797-1825.

Grignion & Son. London. 1775. Also in the Covent Garden shop.

Grimes, Thomas. London. 1671. A famous clockmaker.

Grimes, William. London. Clockmakers' Company. 1682.

Grimley, William. London. Clockmakers' Company. 1694.

Grinkin, Edmond. London. 1656.

Grinkin, Robert. London. Clockmakers' Company. 1632-60. An influential member of the company. Junior Warden 1640. Renter Warden 1641, 42, 43. Senior Warden 1645. Master 1648, 49-54.

Grizell, John. London. Clockmakers' Company. 1687.

Groelier, Nicholas. Lyon. 1689. Inventor of lamp and other "mysterious" clocks.

Grose, Richard. London. Clockmakers' Company. 1632.

Grosser, Johann. Furth, Germany. 1768.

Grout, Ralph. London. 1780. Maker of a watch for Turkish market, with dial showing Turkish numerals. Boston Museum of Fine Arts.

Grove, George. London. Clockmakers' Company. 1715.

Grove, George. London. Clockmakers' Company. 1812. Wood Street, Cheapside.

Grove, Richard. London. 1787. Clockmakers' Company. Put on the livery.

Grove, Thomas. London. Clockmakers' Company. 1715.

Grove, W. R. London. Clockmakers' Company. 1811-15.

Gruber, Hans. Nuremberg. 1510-60.

Gruber, Michel. Nuremberg. 1607.

Grundler, J. N. Augsburg. 1757-90.

Guest, John. London. Clockmakers' Company. 1802. Fleet Market.

Guise, Thomas. London. Clockmakers' Company. 1815. Nightingale Lane, East Smithfield.

Gusterman, Joseph. Vienna. 1650.

Gutch, John. London. Clockmakers' Company. 1673.

Gutheridge, William. London. Clockmakers' Company. 1728.

Guy, Charles. London. Clockmakers' Company. 1714.

Guy, Henry. London. Clockmakers' Company. 1702.

Guy, James. London. Clockmakers' Company. 1796-1830. Brasier's Buildings, Fleet Market.

Gwillim, Eli. London. Clockmakers' Company. 1648.

H

Haas, ——. Berne. 1770. Maker of a handsome double-case repoussé watch in Proctor collection.

Haas, Davis S. Augsburg. 1725.

Haas, Johann J. Augsburg. 1723.

Habart, James. London. Clockmakers' Company. 1682.

Haberl, P. Johan. Augsburg. 1770-76.

Habrecht, Isaac and Josiah. Schaffenhausen. 1570-89. Makers of the second Strasbourg clock.

Hackett, Simon. London. 1630-65. Clockmaker's Company. Junior Warden 1636. Senior Warden 1641 - 43. Master 1646, 47-59. Shop in "the Royall Exchange." His watches were in great demand.

Hackett, P. Harrington. 1750.

Hackson, John, Jr. London. Clockmakers' Company. 1806. Bridgewater Square.

Hackings, John. London. 1753-60.

Hagen, Hans. Worms, Germany. 1575-80.

Hahn, Mathias. Stuttgart. 1764-80.

Haines, Francis. London. Clockmakers' Company. 1706.

Haley, Charles. London. Clockmakers' Company. 1770-1800. He reported on Mudge's chronometer.

Haley, Thomas. London. 1781.

Halked, Thomas. London. Clockmakers' Company. 1702.

Hall, Edward. London. Clockmakers' Company. 1710.

Hall, Peter. London. Clockmakers' Company. 1648.

Hall, Ralph. London. Clockmakers' Company. 1638.

Hall, William. London. 1815-20. High Street, Marylebone.

Hallifax, C. London. 1783. Maker of a gold watch with triple case, date letter 1783. Mrs. George A. Hearn's collection.

Hallifax, John. London. 1730. Maker of fine clocks, long-case and bracket.

Halloran, M. London. 1780. Name on bracket clock.

Halsey, George. London. Clockmakers' Company. 1687.

Halsted, Charles. London. Clockmakers' Company. 1677.

Halsted, John. London. Clockmakers' Company. Born 1698. Maker of a massive gold repeating watch given by Queen Anne to the Duchess of Marlborough.

Halstead, Richard. London. Clockmakers' Company. 1669.

Halstead, William. London. Clockmakers' Company. 1715.

Halsted, Robert. London. 1668-1700. Warden 1696, 97, 98. Master 1699. In 1682 same imperfect movements by him were seized and destroyed.

Ham, John. London. Clockmakers' Company. 1822. Skinner Street.

Hambleton, George. London. Clockmakers' Company. 1669.

Hamilton, Richard. London. Clockmakers' Company. 1712.

Hamilton, Rev. Robert. London. 1786. Clockmakers' Company. Warden 1789, 90, 91. Master 1792. Goodman's Field.

Hammond, John. London. Clockmakers' Company. 1680.

Hancorn, Thomas. London. Clockmakers' Company. 1658.

Hancorne, William. London. Clockmakers' Company. 1676.

Handley & Moore. London. About 1800. Clerkenwell. Makers of bracket clocks.

Hands, Timothy. London. 1750.

Hanslap, Robert. London. Clockmakers' Company. 1653.

Hanslapp, William. London. Clockmakers' Company. 1663.

Hanwell, Zachariah. London. Clockmakers' Company. 1694.

Harbert, William. London. Clockmakers' Company. 1670.

Harbottle, Cornelius. London. Clockmakers' Company. 1667.

Harbud, Jeremiah. London. Clockmakers' Company. 1812. Turnmill Street, Clerkenwell.

Harding, Francis. London. Clockmakers' Company. 1687.

Harding, John. London. Clockmakers' Company. 1687. A great clockmaker.

Harding, John. London. Clockmakers' Company. 1721.

Harding, Joseph. London.

1718. Admitted to Clockmakers' Company 1744.

Hardy, John. London. 1766-86. Clockmakers' Company. Bridgewater Square. Admitted to the Livery.

Hardy, Robert. London. 1776-1803.

Hardy, Thomas. London. 1769.

Hardy, Thomas. London. 1796-1820. Rosomon's Street, Clerkenwell.

Hardy, William. London. 1800. Maker of long-case clocks.

Hare, Alexander. London. 1781-1815. Clockmakers' Company. Admitted to the Livery. Watch by him in Guildhall Museum.

Harker, George. London. 1825-52. Clockmakers' Company. Warden 1847, 48, 49, 50, 51. Master 1852, 53.

Harlow, Samuel. Derby. 1789-1815. Patented the Breguet watch-key.

Harmer, Jasper. London. 1685. He was an ironmonger and made clocks without having served an apprenticeship.

Harold, Richard. London. Clockmakers' Company. 1690.

Harold & Co. London. 1710. Made bracket clocks.

Harper, Henry. London. 1664-1708. Cited to appear before Clockmakers' Company to answer charge of having made watch chains of insufficient fineness. He was apprenticed to Humphrey Pierce, 1664.

Harper, Thomas. London. Clockmakers' Company. 1761.

Harris, Anthony. London. Clockmakers' Company. 1683. A great clockmaker.

Harris, Charles. London. Clockmakers' Company. 1695.

Harris, Christopher. London. 1782-1823.

Harris, Clement. London. 1816-25. Was at one time member of the firm of Hatton & Harris.

Harris, Francis William. London. Clockmakers' Company. 1702.

Harris, Henry. London. Clockmakers' Company. 1711.

Harris, John. London. Clockmakers' Company. 1631-55. One of the first assistants. Master 1641.

Harris, John. London. Clockmakers' Company. 1659.

Harris, John. London. Clockmakers' Company. 1677. Warden 1684, 85, 86. Master 1688.

Harris, John. London. Clockmakers' Company. 1690.

Harris, Richard. London. 1641. Is credited with being the maker of a turret clock with long pendulum for St. Paul's Church in Covent Garden.

Harris, Samuel. London. Clockmakers' Company. 1708.

Harris, William. London. Clockmakers' Company. 1806-24. Holborn.

Harris, William. London. Clockmakers' Company. 1790-1833. Warden 1826, 27, 28, 29. Master 1830, 31, 32.

Harrison, Anthony. London. Clockmakers' Company. 1699-1721. "Birchin Lane."

Harrison, George. London. Clockmakers' Company. 1692. A great clockmaker, served his apprenticeship to Johanna May and Thomas Tompion. "At the 3 Flower-de-Luces."

Harrison, James. Barrow. 1720.

Harrison, John. London. Born 1693, died 1776. One of the greatest horologists of Great Britain.

Harrison, Thomas. London. Clockmakers' Company. 1812. Fetter Lane.

Harrison, John, & Son. London. 1768.

Harrison, William. London. Clockmakers' Company. 1699.

Harryo, Thomas. London. 1671.

Hart, Henry. London. Clockmakers' Company. 1720.

Hart, John. London. Clockmakers' Company. 1720.

Hart, Noe. London. Clockmakers' Company. 1695.

Hart & Harvey. London. 1825.

Hartel, J. Aichach, Bavaria. 1750.

Hartel, J. Aichach, Bavaria. 91.

Hartel, P. Burghausen. 1726-50.

Hartingue, ——. Paris. 1780. Maker of very fine Louis XVI. clocks. One sold 1904 £504 at Christie's.

Harvey, Alexander. London. Clockmakers' Company. 1726.

Harvey, Samuel. London. Clockmakers' Company. 1696.

Harvey, William. Stirling. 1851. Eight-day striking clocks with one train of wheels to do all the work.

Harward, Robert. London. Clockmakers' Company. 1730.

Hasler, Hans Leo. Nuremberg. 1564-1612.

Hassell, Joshua. London. 1746. The man to whom Francis Atkins was apprenticed.

Hassenius, James. London. 1682. Although an "alien" he was admitted to Clockmakers' Company.

Hatch, John. London. Clockmakers' Company. 1693.

Hatchman, James. London. Clockmakers' Company. 1680.

Hatton, James. London. Clockmakers' Company. 1810. St. Michael's Alley, Cornhill.

Hatton, Joseph York. London. Clockmakers' Company. 1811. Lower Thames Street.

Haughton, Richard. London. Clockmakers' Company. 1690.

Hauteville, John. Orleans. Born 1647, died 1724. Claimed to be inventor of method of making watches with spiral springs.

Hawkesbee, Benjamin. London. Clockmakers' Company. 1709.

Hawkesworth, John. London. Clockmakers' Company. 1709.

Hawkins, James. London. Clockmakers' Company. 1730.

Hawkins, Thomas. London. 1777. Royal Exchange.

Hayden, William. London. Clockmakers' Company. 1717.

Haydon, John. London. Clockmakers' Company. 1790. Cheapside.

Haydon, William. Croydon. Clockmakers' Company. 1687.

Hayes, Edmond. London. Clockmakers' Company. 1682.

Hayes, Walter. London. Clockmakers' Company. 1654-84.

Haynes, John. London. Clockmakers' Company. 1676.

Hayler, William. Chatham. 1780.

Hayward, William. London. Clockmakers' Company. 1720.

Haywood, Peter. Crediton. 1766.

Heady, George. London. Clockmakers' Company. 1682.

Headding, Richard W. London. Clockmakers' Company. 1812. Buckingham Street, Strand.

Heathcock, Timothy. London. Clockmakers' Company. 1698.

Heckel, J. A. Friedburg. 1770.

Heckstetter, Joseph. London. Clockmakers' Company. 1694.

Hedge, Nathaniel. Colchester. 1740. Maker of eight-day bracket clocks in mahogany and brass cases.

Heerman, John. London. 1691. A Dutchman who settled in London, made watches.

Heinlein, Andreas. Nuremberg. 1560.

Helden, Onesiphorus. London. Clockmakers' Company. 1630. Charter member. Was Renter Warden 1646, 47. Senior Warden 1648, 49.

Hele, Peter. Nuremberg. 1490-1540. Made small watches of steel which moved without weights, pointed out and struck the hours and could be worn on the person.

Hellam, James. London. Clockmakers' Company. 1689.

Heming, Artis. London. Clockmakers' Company. 1776.

Hemon, ——. Paris. 1790. Mantel clock.

Henche, Uldrich. London. 1605. Sold a clock to James

I. for £100 to be put in his chamber at Whitehall.

Henderson, Robert London. 1772-1805. St. Martin's Court. A clock by him owned by the De Peyster family, New York.

Henner, J. Wurtzburg. 1730.

Hennon, William. London. Clockmakers' Company. 1674.

Henshaw, John. London. Clockmaker's Company. 1696.

Henshaw, Walter. London. Clockmakers' Company. Warden 1693, 94. Master 1695.

Henton, J. London. 1800.

Herbault, ——. Paris. Time of Louis XIV.

Herbert, Cornelius. London. 1670-96. London Bridge.

Herbert, Cornelius, 2. London. 1699-1727. Clockmakers' Company. Warden 1725, 26. Master 1727.

Herbert, Edward. London. Clockmakers' Company. 1664.

Herbert, Edward. London. Clockmakers' Company. 1710.

Herbert, Evan. London. Clockmakers' Company. 1691.

Herbert, Henry. London. Clockmakers' Company. 1713.

Herbert, J. Brightelmston. 1715.

Herbert, Thomas. London. Clockmakers' Company. 1676.

Herbstreit, J. Black Forest, Germany. 1730-60. Invented carved clocks with weights known as "Jockele-Uhren."

Herman, Carl. Nuremberg. 1770.

Hermoine, A. London. 1775.

Heron, Erskine. Edinburgh. 1752. Apprenticed to George Munro, Edinburgh, 1752.

Heron, William. Donaghall. About 1780. Maker of a tall clock owned in Rochester, N. Y., with beautifully engraved brass face, chimes, and showing the phases of the moon.

Herring, John. London. Clockmakers' Company. 1770.

Herring, Joseph. London. Clockmakers' Company. 1786. Farringdon, Berks.

Hertford, John. London. Clockmakers' Company. 1632.

Heskley, John. London. Clockmakers' Company. 1732.

Hess, L. Zurich. 1780.

Hessichti, Dionistus. Germany. 1627. Maker of a book-shaped gilt-metal watch with silver clasps. This watch belonged to Bogislaus XIV., Duke of Pomerania, at the time of Gustavus Adolphus. On the side of the dial there is an engraving of the duke, his titles, and the date. Bernal collection.

Hester, Henry. London. Clockmakers' Company. 1670.

Hester, Henry. London. Clockmakers' Company. 1689.

Hewitt, Alexander. London. Clockmakers' Company. 1725.

Hewitt, Benjamin. London. Clockmaker's Company. 1724.

Hewitt, Thomas. London. 1830.

Heyden, J. Amsterdam. 1750.

Heywood, Mr. London. 1630.

Hicks, John. London. Clockmakers' Company. 1694.

Hicks, Samuel. London. 1780.

Hicks, Thomas. London. Clockmakers' Company. 1666.

Hickson, Thomas. London. Clockmakers' Company. 1690.

Higgins, Banger. London. Clockmakers' Company. 1724.

Higginson, Henry. London. Clockmakers' Company. 1662.

Higginson, Samuel. London. Clockmakers' Company. 1697.

Higgs, John. London. Clockmakers' Company. 1661.

Higgs, Peter. London. Warden 1764, 65, 66. Master 1767. Served only half his term on account of illness.

Higgs, Robert. London. Clockmakers' Company. 1750-69.

Higgs, Thomas. London. Clockmakers' Company. 1716.

Higgs & Evans. London. 1760.

Highmore, Edward. London. Clockmakers' Company. 1687.

Hile, T. London. 1815.

Hill, Abraham. London. 1664. He patented "a new way of making of watches & clocks to be used at sea for exact measuring of tyme, towards the finding the longitude & knowing the true course & place of a shipp."

Hill, Benjamin. London. 1641-70. Clockmakers' Company. Warden 1652, 53, 54, 55. Master 1657.

Hill, Edward. London. Clockmakers' Company. 1698.

Hill, Francis. London. Clockmakers' Company. 1672.

Hill, Francis. London. 1710.

Hill, John. London. 1630.

Hill, John. London. Clockmakers' Company. 1705.

Hill, John. London. Clockmakers' Company. 1731.

Hill, Thomas. London. 1635. A maker of dials.

Hill, Thomas. London. 1775-86. Made bracket clocks with quarter chimes.

Hill, Thomas. London. Clockmakers' Company. 1789. Birchin Lane, Cornhill.

Hillyard, William. London, Clockmakers' Company. 1679.

Hilton, Emanuel. Portsmouth, England. 1790. Maker of mahogany clock 7 ft. 9 in. high, owned in New York.

Hilton, John. London. Clockmakers' Company. 1698. An apprentice of Tompion's.

Hindley, Henry. York. Eighteenth century.

Hindley, John. York. 1752.

Hiorne, John. London. Clockmakers' Company. 1707.

Hiorne, John. London. 1707-45. Clockmakers' Company. Warden 1741, 42, 43. Master 1744.

Hitchin, John. London. Clockmakers' Company. 1720.

Hitchin, Joseph. London. 1781.

Hobler, Paul. London. Clockmakers' Company. 1781.

Hobson, John. London. 1630.

Hochicorn, Isaac. London. Clockmakers' Company. 1728.

Hocker, John. Reading. Admitted to Clockmakers' Company 1729.

Hoddle, John. London. Clockmakers' Company. 1705.

Hodges, Frederick. Dublin. 1806.

Hodges, Nathaniel. London. Clockmakers' Company. 1681.

Hodges, William. London. Clockmakers' Company. 1719.

Hodgkin, Sarah. London. Clockmakers' Company. 1699.

Hoe, Robert. London. 1697.

Hoffman, Melchior. Augsburg. 1600.

Hoffman, Michael. Augsburg. 1763.

Holbrook, T. Ipswich, England. 1760.

Holdred, Theophilus. London. 1829. Watchmaker and mathematical genius as well.

Holeyard, Samuel. London. Clockmakers' Company. 1705.

Holland, George. London. 1630.

Holland, Lewis. London. Clockmakers' Company. 1699.

Holland, Thomas. London. 1630. Clockmakers' Company. Was Master in 1656. Was appointed Clerk and Beadle in 1659, was dismissed in 1662 and discharged.

Holliday, Edward. London. 1656.

Hollier, Jonathan. London. Clockmakers' Company. 1776.

Holloway, Edward. London. Clockmakers' Company. 1650.

Holloway, Robert. London. Clockmakers' Company. 1632.

Holloway, William. London. 1690. Long-case chiming clocks.

Holmes, John. London. 1679.

Holmes, John. London. 1760-81. Made a clock for Greenwich Hospital. Was in business at 156 Strand in 1765.

Holmes, William. London. 1812. At same address as John Holmes.

Holmden, John George. London. Clockmakers' Company. 1808. Clerkenwell Green.

Holmes, Matthew S. London. Clockmakers' Company. 1825-42. Creed Lane, Ludgate Street.

Hooke, A. London. 1661.

Hooke, John. London. Clockmakers' Company. 1698.

Hooke, Robert. Born 1635,

died 1703. Born at Freshwater, Isle of Wight, died at Gresham College, and was buried at St. Helen's, Bishopsgate, London.

Hopkins, John. London. Clockmakers' Company. 1641.

Hopkins, Richard Thomas. London. Clockmakers' Company. 1802. Noble Street.

Hopton, Anthony and Matthew. Edinburgh. In John Smith's "Directory of Scottish Clockmakers," these brothers are credited with being makers of wooden clocks from about 1799 to 1817. They were of the "Wag on the Wall" pattern, and since the government had imposed a tax on imported wooden clocks, and brass clocks were too expensive for humble folk, they had quite an extensive trade. John, a son of Anthony, continued the business till about 1850.

Hopps, George. London. Clockmakers' Company. 1812. Cranbourne Passage.

Hormann, S. Augsburg. 1723.

Hornblower, William. London. Clockmakers' Company. 1713.

Hornblower, William. London. Clockmakers' Company. 1779-95. Beadle of Clockmakers' Company.

Horne, George Henry. London. Clockmakers' Company. 1718.

Horne, Henry. London. Clockmakers' Company. Warden 1748, 49. Master 1750. Put on livery 1766.

Horne, Samuel. London. 1654-85. Clockmakers' Company. Warden 1668, 69, 70, 71. Master 1672, 73.

Horseman, Stephen. London. 1709-20.

Horstmann, ——. Bath. 1813.

Hory, André, à Paris. About 1840. Boule clock with bracket in Louis XIV. style. Robert Hoe collection, New York.

Houghman, Charles. London. Clockmakers' Company. 1680.

Houghton, James. "Ormskirt." 1800-20.

Houghton, Richard. London. Clockmakers' Company. 1690.

Houper, Henry. London. Clockmakers' Company. 1664.

House, John. Clockmakers' Company. 1687. Croydon.

Houssaye, Gele. Paris. 1800. Empire mantel clock with ormolu mounts, John Jay Gilbert collection, U. S.

Houston, Shean. Dublin. 1750.

How, Benjamin. London. Clockmakers' Company. 1691.

How, William. London. 1697.

Howard, Edward. London. 1775-1800.

Howard, John. London. Clockmakers' Company. 1694.

Howard, Richard. London. Clockmakers' Company. 1718.

Howard, William. London. 1770. Maker of a pair-case watch in collection of Robert Hoe, New York.

Howden, James. Edinburgh. 1775-1809. A well known Scottish maker of long-case clocks.

Howe, Ephraim. London. Clockmakers' Company. 1729. Apprenticed to Graham.

Howe, Samuel. London. Clockmakers' Company. 1712.

Howe, Thomas. London. Clockmakers' Company. 1677.

Howell, Benjamin. London. Clockmakers' Company. 1699.

Howell, John. London. Clockmakers' Company. 1724.

Howell, Joseph. London. Clockmakers' Company. 1721.

Howells, William. London. 1780. Appointed to examine Mudge's chronometers.

Howells & Pennington. London. 1705. Howells was apprenticed to Thomas Sheafe, made Freeman of Clockmakers' Company 1780. Pennington does not seem to have been member of company.

Howes, John. London. 1672. A great clockmaker.

Howes, J. London. 1770. Maker of a pair-case gold repeating watch, outer case pierced and repoussé, with a rich chatelaine. In the Robert Hoe collection, New York, 1911.

Howes, John. London. Clockmakers' Company. 1780. Fleet Street. 1819. Tring. Herts.

Howes, William. London. 1766.

Howes, William. London. Clockmakers' Company. 1786. Fleet Street.

Howle, John. London. Clockmakers' Company. 1724.

Howse, Charles. London. Clockmakers' Company. Warden 1784, 85, 86. Master 1787.

Howse, John. London. Clockmakers' Company. 1706.

Howse, John. London. Clockmakers' Company. 1687.

Howse, Joseph. London. Clockmakers' Company. 1698.

Howse, Thomas. London. 1632. Clockmakers' Company. Junior Warden 1642.

Howse, William. London. Clockmakers' Company. 1731-80.

Howson, John. London. Clockmakers' Company. 1699.

Hoyendyk, ——. Rotterdam. 1725.

Hozer, J. M. Vienna. 1775.

Huand Le Puisné. Seventeenth century. An enameller on watch cases.

Hubbard, John. London. Clockmakers' Company. 1722.

Huber, M. Friedburg. 1795.

Hubert, David. London. 1714. Clockmakers' Company. Warden 1740, 41, 42. Master 1743.

Hubert, Estienne. Rouen. 1670.

Hubert, Jean. Rouen. 1645.

Hubert, Noel. Rouen. 1600.

Huchason, Richard. London. Clockmakers' Company. 1702.

Hues, Pierry. London. Clockmakers' Company. 1632-60.

Huggerford, Ignatius. London. 1671-1704. He made a watch "with a stone fixed in the clock and balance work," which was used as evidence in the case of the Clockmakers' Company against Facio & Debaufre.

Hughes, John. London. Clockmakers' Company. 1703.

Hughes, Thomas. London. Clockmakers' Company. 1712.

Hughes, Thomas. London. Clockmakers' Company. Warden 1739, 40, 41. Master 1742.

Hughes, Thomas, 2. London. Clockmakers' Company. Warden 1762, 63, 64. Master 1765. Put on livery 1766, clerk 1777.

Hughes, Thomas. London. Clockmakers' Company. 1770-85. Clerk of company.

Hughes, William. London. 1770-94.

Hulst, Jacob. London. 1646-52. Gave a sugar dish to the Clockmakers' Company.

Hulton, John. London. Clockmakers' Company. 1724.

Humbert & Mairet. Paris. 1790.

Humphreys, Samuel. London. Clockmakers' Company. 1728.

Humphreys, William. London. Clockmakers' Company. 1699.

Hunt, Edward. London. Clockmakers' Company. 1684.

Hunt, James. London. Clockmakers' Company. 1708.

Hunt, John. London. 1671. A clockmaker and Brother of the Society of Tobacco Pipe Makers of London.

Hunter, Thomas. London. 1768-94. He was by trade a clockmaker but a member of Clothworkers' Company.

Hunter, Thomas, Jr. London. 1781. 156 Fenchurch Street.

Huntt, Edward. London. 1684.

Hurland, Henry. London. Clockmakers' Company. 1654.

Hurst, Isaac. London. Clockmakers' Company. 1677.

Hurst, John. London. Clockmakers' Company. 1796-1812. Leadenhall Market.

Hussey, Joseph. London. Clockmakers' Company. 1685.

Hussiner, J. Paris. 1650.

Hutchin, James. London. Clockmakers' Company. 1697.

Hutchin, Joseph. London. Clockmakers' Company. 1703.

Hutchins, John. London. Clockmakers' Company. 1703.

Hutchins, Joshua. London. Clockmakers' Company. 1682.

Hutchinson, Edward. London. 1750. A verge watch by him in Nelthropp collection.

Hutchinson, John. London. Clockmakers' Company. 1712.

Hutchinson, Richard. London. 1736. A freeman of Clockmakers' Company; left £100 to the company.

Hutton, John. London. 1848. Commercial Road.

Huygens, Christian. Hague. Born 1629, died 1695. To him is due credit for applying pendulum to clocks. He lived in Paris from 1665-81, and came there at the invitation of Louis XIV. to found a royal academy of sciences.

Hyman, Robert. 1769-80. Describes himself as "horloger de la Cour, St. Petersburg." Maker of a very fine watch and chatelaine with seals in the Tzar's collection of old English watches. Went to Russia from London, where he had been member of the Joiners' Company. Made very splendid watches and table clocks.

Hyterweek, ——. Rotterdam. 1750.

I

Ibell, Thomas. London. Clockmakers' Company. 1812. St. John's Street.

Ingram, William. London. Clockmakers' Company. 1730.

Ingraham, Thomas. London. Clockmakers' Company. 1695.

Ingraham, William. London. Clockmakers' Company. 1730.

Ion, John. London. Clockmakers' Company. 1812-39. Bow Lane, Cheapside.

Ireland, Francis. London. Clockmakers' Company. 1668.

Ireland, Henry. London. Clockmakers' Company. 1654.

Irish, J. Heyning. 1750.

Irving, Alexander. London. Clockmakers' Company. 1695.

Irving, J. Blackburne, England. 1750.

Isaac, Daniel. London. Clockmakers' Company. 1670.

Ives, Francis. London. Clockmakers' Company. 1709.

Izod, William. London. Clockmakers' Company. 1649.

J

Jackeman, Joseph. London. 1680. "London Bridge."

Jackson, ——. Interworth. About 1680. Maker of a brass bracket clock, with hour hand only.

Jackson, Edward. London. Clockmakers' Company. 1669.

Jackson, Edward. Clockmakers' Company. 1680. Newington, Surrey.

Jackson, James. London. Clockmakers' Company. 1689.

Jackson, John. London. Clockmakers' Company. 1682.

Jackson, John. London. 1770-1800. Clockmakers' Company. Warden 1793, 94, 95. Master 1796.

Jackson, John. London. Clockmakers' Company. 1760-70.

Jackson, John, Sr. London. Clockmakers' Company. Warden 1813, 14.

Jackson, John, Jr. London. Clockmakers' Company. 1810. Bridgewater Square. Master 1822. 1800-29.

Jackson, John. London. Clockmakers' Company. 1820. White Hart Court, Lombard Street.

Jackson, John. London. Clockmakers' Company. 1830. Watling Street.

Jackson, John, & Co. London. 1781. 2 Bridgewater Square, Barbican.

Jackson, Joseph. London. Clockmakers' Company. 1648.

Jackson, Martin. London. 1697. Clockmakers' Company. Warden 1718, 19, 20. Master 1721.

Jackson, Matthew. London. Clockmakers' Company. 1730. Lantern clock of brass with bob pendulum. Fretwork ornament on top. Robert Hoe collection, New York.

Jackson, Richard. London. 1632.

Jackson, Stephen. London. Clockmakers' Company. 1829. Bridgewater Square.

Jackson, Thomas. London. Clockmakers' Company. 1688.

Jackson, William. London. Clockmakers' Company. 1811. King Street, Clerkenwell.

Jacob, Benjamin. London. Clockmakers' Company. 1706.

Jacob, Benjamin. London. Clockmakers' Company. 1718.

Jacobzoon, Dirck. Wozmerveer. 1698.

Jacot, T. F. Locle, Switzerland. 1850.

Jager, Georg Johann. Augsburg. 1768.

Jager, Ignati. Augsburg. 1803.

Jagger, Edward. London. Clockmakers' Company. 1702.

James, John. London. Clockmakers' Company. 1662.

James, Joseph. London. Clockmakers' Company. 1689.

Jamison, George. London. 1801. Maker of watch in German silver case, Proctor collection.

Jammett, Thomas. London. Clockmakers' Company. 1704.

Janatt, Richard. London. 1680.

Janson, Joseph. London. Clockmakers' Company. 1821. Abchurch Lane.

Janszen, Antony. Amsterdam. 1760. Maker of a fine long-case clock of oak veneered with burr walnut. Victoria and Albert Museum.

Janvies, ——. Paris. 1775. Maker of a clock for Louis XVI. with metal work by Gouthière, which brought at auction in July, 1902, £3,255.

Janvier, Antide. Besancon. 1770. Maker of a regulator clock with ten dials, from the Palace of Prince Bathyany at Buda Pesth. Sold for £546 at Christie's 1907.

Jaques, William. London. 1687. Clockmakers' Company. Warden 1713, 14, 15. Master 1716.

Jaques, William. London. Clockmakers' Company. 1724.

Jardin, John. London. Clockmakers' Company. 1740-81. Honorary Freeman.

Jardin, John. London. Clockmakers' Company. 1796. Throgmorton Street.

Jarman, John. London. Clockmakers' Company. 1728.

Jarman, John Bowkett. London. 1820.

Jarratt, Richard. London. 1660. Clockmakers' Company. Warden 1681, 82, 83. Master 1685. Was one of the stewards 1672.

Jarrett, Barnard. London. Clockmakers' Company. 1787. White Lion Street, Pentonville. 1807.

Jarrett, John William. London. Clockmakers' Company. 1787. Rosomon Street, Clerkenwell.

Jarvis, George. London. Clockmakers' Company. 1728.

Jayne, John. London. Clockmakers' Company. 1687.

Jeff, Benjamin. London. Clockmakers' Company. 1702.

Jefferies, John. London. Clockmakers' Company. 1637.

Jeffery, William Knight. London. Clockmakers' Company. 1712.

Jeffreys, John. London. Clockmakers' Company. 1726.

Jeffs, John. London. Clockmakers' Company. 1607.

Jeffs, Benjamin. London. Clockmakers' Company. 1702.

Jelf, William. London. Clockmakers' Company. 1717.

Jenault, ——. Paris. 1750.

Jenkins, Cornelius. London. Clockmakers' Company. 1678.

Jenkins, James. London. Clockmakers' Company. 1692.

Jenkins, Thomas. London. Clockmakers' Company. 1678.

Jennings, Charles. London. Clockmakers' Company. 1725.

Jennings, Robert. London. Clockmakers' Company. 1703.

Jennings, Thomas. London. Clockmakers' Company. 1721.

Jessop, Josias. London. 1781-90.

Jeubi, ——. Paris. 1630. Made a watch for Queen Elizabeth.

Jevon, May. London. Clockmakers' Company. 1705.

Joakley, T. London. 1750.

John, Hans. Königsberg. 1580.

Johnson, Cornelius. London. Clockmakers' Company. 1694.

Johnson, George. London. Clockmakers' Company. 1649.

Johnson, Isaac. London. Clockmakers' Company. 1705.

Johnson, Isaac. London. Clockmakers' Company. 1723.

Johnson, Jere. Exchange Alley. 1650.

Johnson, Jeremiah. London. Clockmakers' Company. 1668.

Johnson, John. London. Clockmakers' Company. 1678.

Johnson, John. London. Clockmakers' Company. 1680.

Johnson, John. London. Clockmakers' Company. 1701.

Johnson, John. London. 1770-90. Gray's Inn Passage. Maker of silver double-case watch in Proctor collection.

Johnson, John. London. 1790-1820. Gray's Inn Lane.

Johnson, Michael. London. Clockmakers' Company. 1687. Barnard Castle.

Johnson, Roger. London. 1630.

Johnson, Thomas. London. Clockmakers' Company. 1713.

Johnson, Thomas. London. Clockmakers' Company. 1700.

Johnson, Thomas. Richmond. 1760.

Johnson, William. London. Clockmakers' Company. 1702.

Johnstone, James. London. Clockmakers' Company. 1706.

Jolly, Josias, à Paris. 1670. Maker of octagonal silver-gilt watches.

Joly, Q. F. Paris. 1780-1800.

Jones, David. London. Clockmakers' Company. 1687.

Jones, Evan. London. Clockmakers' Company. 1648-71.

Jones, Francis. London. Clockmakers' Company. 1824. Cornhill.

Jones, George. London. Clockmakers' Company. 1821. Albany Road, Kent Road.

Jones, Henry. London. 1654. Warden 1687, 88, 89. Master 1691. Apprenticed to Edward East 1654, admitted to Clockmakers' Company 1663. Charles II., so the story goes, gave to Miss Jane Lane a clock by Jones. In 1673 on the Company's books is an entry charging Robert Seignior, who was given the clock to repair, with removing Jones's name and inserting his own. The cost of the clock is given as £150.

Jones, Henry. London. Clockmakers' Company. 1697.

Jones, John. London. Clockmakers' Company. 1716.

Jones, John. London. 1750-63. Clockmakers' Company. Warden 1759, 60, 61. Master 1762.

Jones, Jonathan. London. Clockmakers' Company. 1687.

Jones, Owen. London. 1787.

Jones, Thomas. London. Clockmakers' Company. 1679.

Jones, Thomas William. London. 1679.

Jones, William. London. Clockmakers' Company. 1663.

Jones, William. London. Clockmakers' Company. 1787-1829. Shoemaker Row, Blackfriars.

Jones, William. London. Clockmakers' Company. 1778.

Jones, Valentine. London. Clockmakers' Company. 1704.

Joseph, J. Bristol, England. 1800.

Joseph, S. London. 1750.

Jovat, ——. London. 1675.

Joyce, Conway. London. Clockmakers' Company. 1811-37. Lombard Street.

Joyce, George. London. 1680-95. Maker of a clock in very fine boule case, once the property of James II., given by Mary D'Este, the Queen, to her maid of honour, Basilia Gage, the youngest daughter of Sir Edward Gage of Hengrave.

Joyce, Samuel. London. Clockmakers' Company. 1811-30. Lombard Street.

Joyne, John. Paris. 1600-25.

Julian, Gregory. London. Clockmakers' Company. 1664.

Julliott, Solomon. London. 1738.

Jump, J. and A. London. 1780. Makers of a very fine gold watch with enamel case in the collection of Robert Hoe, New York.

Junger, Jacob N. Augsburg. 1650.

Jurgensen, Urban. Copenhagen. Died 1837. Made many fine chronometers, some of which are owned in the United States.

Jurgensen, Louis U. Copenhagen. Died 1867. Successor to his father.

K

Kanns, John. London. Clockmakers' Company. 1712.

Kassele, Joseph. Augsburg. 1803.

Keddon, Daniel. London. Clockmakers' Company. 1717.

Kehlhoff, Mary Anne. London. 1840.

Kehlhoff, Sophia. London. 1842.

Keller, Lorenz. Steppach, Germany. 1770.

Keller, Theodore. Steppach, Germany. 1770.

Kellet, Thomas. London. 1635. Clockmakers' Company. Fined 5s. for having a defective watch.

Kelton, Simon. London. Clockmakers' Company. 1723.

Kemp, Charles. London. Clockmakers' Company. 1688.

Kemp, James. London. Clockmakers' Company. 1812. Peckham, Surrey.

Kemp, Richard. London. Clockmakers' Company. 1701.

Kemp, William. London. Clockmakers' Company. 1787-1837. Highgate, Middlesex.

Kemps, Matthew. London. Clockmakers' Company. 1670.

Kendal, John. London. 1620. Maker of watches, with catgut instead of chain. Bernal collection.

Kendal, Larcum. London. 1774-86. An apprentice of John Harrison's and a maker of very fine watches.

Kendrick, John. London. Clockmakers' Company. 1719.

Kendrick, John. London. Clockmakers' Company. 1726.

Kenney, William. London. 1682. Was working at trade but not admitted to Clockmakers' Company.

Kenny, Vincent. London. 1530. Supplied clock and "dials" to Henry VIII.

Kenning, William. London. Clockmakers' Company. 1684. A great clockmaker.

Kennedy, R. H. London. Clockmakers' Company. Warden 1854, 55, 56. Sheriff of London and Middlesex, 1855. Died 1865.

Kennedy, William. Barnbridge, Ireland. Died 1790. Though blind made many clocks plain and musical.

Kent, Henry. London. Clockmakers' Company. 1650.

Kenton, Joseph. London. Clockmakers' Company. 1686.

Kershaw, George. London. 1790-95. Maker of a clock 7 ft. 8 in. tall, brass works, strike-silent, day of month, mahogany case inlaid, in good running order. Owned by Mrs. R. C. Kittell, Stuyvesant Falls, New York.

Kevitt, R. London. 1775.

Kheller, Johan Michael. 1600-25. Maker of a square watch, silver-gilt, catgut spring, Bernal collection.

Kilminster, Henry. London. Clockmakers' Company. 1677.

Kinable, ——. Lyre-shaped clock in case of ormolu with Sèvres mounts. Sold at Christie's 1907.

King, Henry. London. Clockmakers' Company. 1720.

King, Jonathan. London. Clockmakers' Company. 1689.

King, John. London. Clockmakers' Company. 1715.

King, John. London. Clockmakers' Company. 1729.

King, Thomas. London. Clockmakers' Company. 1669.

King, Thomas William. London. Clockmakers' Company. 1802-25.

King, Thomas. Alnwick. 1773.

King, William. London. Clockmakers' Company. 1720.

Kingsmill, George. London. Clockmakers' Company. 1667.

Kinning, John. London. Clockmakers' Company. 1701.

Kipling, W. London. About 1730. Maker of a pair-case gold watch, outer case repoussé. In the Robert Hoe collection, New York.

Kirby, Robert. London. Clockmakers' Company. 1722.

Kirk, John. London. Clockmakers' Company. 1677.

Kirkup, Matthew. Nun's Gate, Newcastle. 1811.

Kissor, Samuel. London. Clockmakers' Company. 1712.

Kitchen & Lloyd. Oak grandfather clock with brass dial, eighteenth century style.

Klein, Johann H. Copenhagen. 1710.

Kleinschmidt, J. M. Landsberg. 1725.

Knibb, Joseph. London. Clockmakers' Company. 1670.

Knibb, John. "att Oxon." 1680.

Knibb, Joseph. London. 1670-1710. Admitted to Clockmakers' Company 1670; made a clock for Windsor Castle.

Kribb, Peter. London. Clockmakers' Company. 1677.

Knibb, Samuel. London. Clockmakers' Company. 1663.

Knight, Charles. London. Clockmakers' Company. 1685-95.

Knight, Henry. London. Clockmakers' Company. 1723.

Knight, Michael. London. Clockmakers' Company. 1677. Apprenticed to Tompion.

Knight, Richard. London. Clockmakers' Company. 1682.

Knottesforde, William. London. 1663-1693. Apprenticed to Henry Child. Freeman 1663. Clockmakers' Company 1664. Master 1693.

Koch, P. Haarlem. 1750.

Kornman, J. G. Friedberg. 1722.

Koster, Dirck. Amsterdam. 1680.

Kreitzer, Conrat. 1610. Maker of pear-shaped watch in Bernal collection.

Kress, J. G. Augsburg. 1791.

Kroese, J. P. Amsterdam. 1775.

L

Ladd, Ladd. London. Clockmakers' Company. 1709.

Ladterse, J. George. Aichach. 1730.

Lagisse, Pierre. France. 1660. Maker of a round gold watch with enamelled portrait, in Bernal collection.

Laidlaw, Thomas. London. Clockmakers' Company. 1770. In 1781 made Honorary Freeman of Clockmakers' Company.

Laing, ——. Stamfordham. 1790.

Lainy, David. London. 1680-90.

Lake, Bryan. London. Clockmakers' Company. 1674.

Lallemant, ——. Blois. 1700.

La Oltramare. Geneva. About 1790. Maker of an enamel watch in collection of Robert Hoe, New York.

Lambe, Edmund. London. Clockmakers' Company. 1675.

Lambe, Thomas. London. Clockmakers' Company. 1632.

Lamb & Webb. London. 1781.

Lampe, John. London. Clockmakers' Company. 1713-60. Henrietta Street.

Lample, J. London. 1713-40.

"Lancelot, Paris." About 1760. Boule clock with bracket. Robert Hoe collection, New York.

Landeck, Andrew. Nuremberg. 1638-63.

Landeck, J. C. Nuremberg. 1656.

Landre, ——. Amsterdam. About 1725. Maker of a fine Dutch watch with copper case, enamelled by "Les Frères, Huand," with gold dial finely chased. In the collection of Robert Hoe, New York.

Lang, ——. Augsburg. 1723.

Lang, John. London. Clockmakers' Company. 1720.

Langcroft, Richard. London. Clockmakers' Company. 1718.

Langford, Goring. London. Clockmakers' Company. 1652.

Langford, Thomas. London. 1781.

Langthorne, Thomas. London. Clockmakers' Company. 1776. Threadneedle Street.

Langley, Cornelius. London. Clockmakers' Company. 1706.

Langley, Thomas. London. Clockmakers' Company. 1664.

La Pierre, J. Vienna. 1800.

La Rue, Carlos. Madrid. 1795-1800.

Larçay, ——. London. 1724. Mentioned in Wood's "Curiosities" as being contemporary with Quare.

Laresche, ——. Paris. 1820.

Lashbrook, Henry. London. Clockmakers' Company. 1715.

Latham, John. London. Clockmakers' Company. 1700.

Latour, Réné. London. Clockmakers' Company. 1730.

Laughton, William. London. Clockmakers' Company. 1683.

Lawell, Paul. London. Clockmakers' Company. 1653.

Lawrence, ——. Bath. 1763.

Lawson, Charles. Edinburgh. 1822.

Lawson, John E. London. Clockmakers' Company. 1812. Bishopsgate Street Within.

Laxton, Thomas. London. Clockmakers' Company. 1642.

Laxton, Thomas. London. Clockmakers' Company. 1653.

Layton, Francis. London. Clockmakers' Company. 1726.

Layton, John. London. Clockmakers' Company. 1653.

Layton, Thomas. London. Clockmakers' Company. 1776-1820.

Lea, Thomas. 1786. London. Clockmakers' Company. Warden 1779, 80, 81. Master 1782.

Leach, Thomas. London. 1788.

Leadbetter, Andrew. Congleton. 1770. Learned his trade of Andrew Clark of Edinburgh, 1764.

Leake, Faith. London. Clockmakers' Company. 1685.

Leake, George. London. Clockmakers' Company. 1693.

Le Beaufre, ——. Paris. 1650.

Le Blow, R. London. 1760.

Le Bon, Alexander. Paris. 1719-50.

Lech, Jacob. Prague. 1500.

Lechopie, ——. Paris. 1780. Maker of clocks.

Le Count, Daniel. London. 1685. A member of the Haberdashers' Company, but by trade a clockmaker. Admitted a brother of Clockmakers' Company, 1676.

Le Comte, James. London. Clockmakers' Company. 1687.

Lecount, Peter. London. Clockmakers' Company. 1811. City Road.

Ledgarde, ——. Newcastle. 1740.

Lee, Cuthbert. London. Clockmakers' Company. 1676-95.

Lee, John. London. Clockmakers' Company. 1719.

Lee, Samuel. London. Clockmakers' Company. 1694.

Leekey, Gabriel. London. 1755. He was a member of the Skinners Company, but followed the trade of watchmaker.

Leekey, Gabriel. London. Admitted Clockmakers' Company 1778. Son of Gabriel.

Leeming, Edward. London. 1787-96.

Lees, T. Bury. Late eighteenth century. Fine tall-case mahogany clocks. He was a prolific maker.

Le Fauchant. Paris. 1760. Maker of very fine clocks Louis XVI. One sold in 1904, £315.

Lafaucher à Paris. Maker of a clock in case of oak, enriched with dragons in ormolu. This clock sold in London, February, 1906, for £1207 10s.

Le Feburg, Charles. London. Clockmakers' Company. 1687. A Frenchman settled in London.

Leffin, Thomas. London. Clockmakers' Company. 1720.

Leger à Paris. Late eighteenth century. Maker of jewelled and enamelled watches.

Legg, John. London. Clockmakers' Company. 1724.

Le Grand, Francis. London. Clockmakers' Company. 1647.

Le Grand, James. London. Clockmakers' Company. 1641.

Legrand, James. London. Clockmakers' Company. 1664.

Le Grande, F. France. 1580.

Lehoin, James. London. 1758.

Lehner, A. B. Augsburg. 1741-60.

Lehr ,S. Nuremberg. 1525-56.

Leigh, Thomas. London. Clockmakers' Company. 1730.

Lelievre à Paris. 1780. Maker of very beautiful clocks, chased and with gilt ormolu.

Lello, James. London. 1656.

Lemandre, Nicholas. Blois. 1630.

Lenk, E. Augsburg. 1780.

Le Noir, Etienne. Paris. 1780. Maker of a fine gold watch with enamel case, showing Cupid in a rose garden. In the Robert Hoe collection, New York. Maker of a gilt bronze cartel clock with convex dial, also in the Robert Hoe collection, New York.

Lenoir, Toussaint, à Paris. About 1760. Balloon-shaped clock with gilt bronze mountings. Robert Hoe collection, New York, 1911.

Le Noir à Rennes. 1710.

Lenorth, Jasper. London. Clockmakers' Company. 1641.

Lens, William. London. Clockmakers' Company. 1711.

Lepante, J. A. Paris. Born 1709, died 1789. A famous French clockmaker and inventor of the pin-wheel escapement.

Lepine, ——. Paris. 1720.

Lépine, Jean Antoine à Paris. Born 1720, died 1814. Watchmaker to Louis XV. He was a protégé of Voltaire, who induced him to come and open a factory at Ferney, not far from Geneva. When things were going well, Voltaire writes to a friend: "At my place here better watches are made than in Geneva are produced, and the Sieur Lepine, the King's watchmaker, has his establishment and workmen among us. We

manufacture for Paris and for Bengal. Send me your orders and you shall be supplied; you shall have very fine watches and very indifferent verses whenever you are pleased to send for them."

Leplastrier, Isaac. London. Clockmakers' Company. 1829-40. Cheapside.

Le Puisne, Huand. Blois. 1635. Maker of superbly enamelled watch-cases.

Leroux, Alexander. London. Clockmakers' Company. 1706.

Leroux, John. London. 1785. Charing Cross. Honorary Freeman of Clockmakers' Company. 1781.

Le Roy, Bonnet. Rheims. 1820.

Le Roy, Julien, à Paris. Born at Tours, France, August 8, 1686. Went to Paris 1699, received as Master-clockmaker 1713, died 1759.

Le Roy, Pierre. Born 1717, died 1785. Son of Julien Le Roy, and even more inventive than his father. Among other things he invented a compensation balance formed of tubes containing mercury.

Le Roy, Samson. Paris. 1725. Maker of Louis XV. clocks. One 7 ft. 9 in. high sold for £231, 1907.

Lester, Thomas. London. Clockmakers' Company. 1690.

L'Estrange, David. London. Clockmakers' Company. 1699.

Lestourgeon, David. London. 1698-1730. Admitted a brother to Clockmakers' Company.

Lestourgeon, David, 2. London. Clockmakers' Company. 1721-51.

Levy, Jonas. London. Clockmakers' Company. 1820-31. The first Jew admitted to the Clockmakers' Company.

Levy, Jonas. London. 1800-20.

Levyson, Montague. London. 1842.

Lewin, William. London. Clockmakers' Company. 1731.

Lewis, Ambrose. London. Clockmakers' Company. 1725.

Lewis, John. London. Clockmakers' Company. 1705.

Lewis & Moss. London. 1842.

Ley, William. London. Clockmakers' Company. 1711.

Libis, Andreas. Augsburg. 1764.

Libley, J. London. 1750.

Lichtenauer. Wurzburg. 1725.

Liddle, William. Edinburgh. 1819. Maker of tall clocks.

Light, John. London. Clockmakers' Company. 1648.

Lightfoot, Peter. England. 1340. Made a clock for Glastonbury Abbey. It was removed to Wells Cathedral at the Reformation, and unfortunately was "restored" in

1835. Only a portion of it remains intact.

Limonière, Stephen. London. Clockmakers' Company. 1712.

Limpard, John. London. 1580. Maker of rock crystal watches set in silver.

Lindsay, G. 1740-76. "Sert to his Majesty."

Lindsey, William. London. 1780.

Linfield, Edmund. Tunbridge. 1740.

Linhard, Thomas. London. 1638-58.

Linmacker, Samuel. London. 1630.

Lippius, Nicholas. Basle. 1598.

Litherland, Peter, & Co. Liverpool. 1794-1813. In 1794 he patented a "rack lever," on which principle many watches were made.

Littlemore, Whitestone. London. Clockmakers' Company. 1698. Apprenticed to Tompion.

Littleton, William. Prescott. 1800.

Lloyd, Charles. London. Clockmakers' Company. 1691.

Lloyd, David. London. Clockmakers' Company. 1677.

Lloyd, James. London. Clockmakers' Company. 1700.

Lloyd, James. London. Clockmakers' Company. 1722.

Lloyd, John. London. 1796.

Lloyd, Joseph. London. Clockmakers' Company. 1673.

Lloyd, Richard. London. Clockmakers' Company. 1681.

Lloyd, William. London. Clockmakers' Company. 1668.

Lloyd, William. London. Clockmakers' Company. 1670.

Lochard, John. London. Clockmakers' Company. 1655.

Lock, James. Bath. 1780.

Locker, John. London. Clockmakers' Company. 1740-60. Clerk of Company.

Loderer, J. E. Augsburg. 1750-76.

Loddington, Isaac. London. 1733.

Lodowick, Peter. London. Clockmakers' Company. 1689.

Lofter, J. Stadthoff. 1725-50.

Logg, M. Vienna. 1725.

Logge, J. Amsterdam. 1680.

Logie, Robert. Edinburgh. 1784-1827. The business was sold in 1827 to Andrew Millar, whose son still carries it on.

Long, John. London. Clockmakers' Company. 1677.

Long, John. London. Clockmakers' Company. 1698.

Long, Thomas. London. Clockmakers' Company. 1653.

Longford, Ellis. London. Clockmakers' Company. 1672.

Longford, Thomas. London. Clockmakers' Company. 1760-80.

Longland, John. London. Clockmakers' Company. 1677.

Loomes, Thomas, "at The Mermayd in Lothbury." 1649-74. An apprentice to John Selwood. Admitted a brother of Clockmakers' Company.

Loon, William. Dordrecht. 1720.

Loon, T. Amsterdam. 1740.

Lope, ——. London. 1750.

Lord, Richard. London. 1632.

Lotter, T. Augsburg. 1726.

Loundes, Jonathan. London. 1680-1700. Maker of long-case clocks. A portable clock by him at the Long Island Historical Society Rooms, U. S. A.

Lovell, Paul. London. 1632.

Lovett, William. London. Clockmakers' Company. 1702.

Lowndes, Isaac. London. Clockmakers' Company. 1680-90. Admitted to Clockmakers' Company 1682. A clockmaker with shop in Pall Mall.

Lucas, Edward. London. Clockmakers' Company. 1727.

Lucas, Henry. London. Clockmakers' Company. 1731.

Lucas, William. London. Clockmakers' Company. 1669.

Lucie, John. London. Clockmakers' Company. 1663.

Ludlow, P. Yarmouth. 1740.

Ludlow, Samuel. London. Clockmakers' Company. 1706.

Ludlow, ——. Yarmouth. 1802. Maker of tall clock in oak case.

Lumpkin, Thomas. London. Clockmakers' Company. 1694.

Lunod, ——. London. 1750.

Lushbrook, ——. London. Clockmakers' Company. 1701.

Luttman, William. London. Clockmakers' Company. 1720.

Luzelkircher, J. Krieghaven. 1770.

Lynaker, Samuel. London. Clockmakers' Company. 1631-50. One of the first assistants.

Lynch, ——. Newbury. Long-case clocks, about 1800.

Lynch, Robert. London. Clockmakers' Company. 1670.

Lyne, William. London. Clockmakers' Company. 1703.

Lynnaker, Samuel. London. 1630. Clockmakers' Company. Charter member. One of the assistants.

Lyons, Richard. London. Clockmakers' Company. Warden 1679, 80. Master 1683.

Lyppyus, N. Basle. 1590.

M

Maberly, John. London. 1718. Clockmakers' Company. Warden 1735, 36, 37. Master 1738.

McCabe, James. London. 1779. Several members of this family belonged to

Clockmakers' Company. The firm was founded by James McCabe and his name was retained throughout its existence. He died while Senior Warden, 1811.

McCabe, James, 2. London. 1825-38.

McCabe, Robert. London. Clockmakers' Company. 1824. Cornhill.

McCabe, R. London. 1840-80. Clockmakers' Company.

McCabe, Thomas. London. Clockmakers' Company. 1820. Cornhill.

McCabe, W. Newry, Ireland. 1775.

McCabe & Son. London. 1820.

McCabe & Straham. London. 1825.

Macfarlane, P. London. 1755.

Macklin, James. London. Clockmakers' Company. 1812. Plum Tree Street.

Macpherson, R. & W. London. 1825.

Mace, Lawrence. London. 1750.

Maclennan, Kenneth. London. 1781-1825.

Macy, Benjamin. London. Clockmakers' Company. 1712.

Maggs, William. London. 1725. Maker of clock in lacquer case 7 ft. 10 in. high, painted by Hogarth. Sold at Christie's.

Magniac, Colonel Francis. London. 1770-90. A famous maker of automaton clocks. His factory was in Clerkenwell, and his achievements did much to render that parish noted as a clock-making centre.

Magson, John. London. Clockmakers' Company. Essex Street. 1704.

Maillingley, Robert. London. 1790.

Maisden, John. London. 1723.

Maistre, J. Walaire. 1750.

Maitland, John. Glasgow. 1818.

Malet, ——. Paris. 1790. Mantel clock with bust of Washington.

Mallet, P. London. 1700. Maker of lantern clocks.

Manby, H. London. 1660-90.

Manchester, John. London. Clockmakers' Company. 1700.

Mansell, William. London. 1812.

Manwaring, Thomas. London. Clockmakers' Company. 1694.

Marchant, Samuel. London. Clockmakers' Company. 1677-1704? Maker of long-case clocks with "seaweed" marquetry cases. Warden 1704.

Marduit, Isaac. London Clockmakers' Company. 1724.

Margetts, George. London. 1779-1802. Clockmakers' Company. Made a freeman 1779. Livery 1799.

Marke, John. London. Clockmakers' Company. 1667. Mathematical instrument maker.

Markham, J. London. 1700. In 1697 Markham was a warden of the Blacksmiths' Company, though by trade a watchmaker.

Markham, John. London. 1760-80. Maker of a fine pair-case gold watch, with outer gold case pierced and repoussé. Extra case of leather mounted in gold. In the Robert Hoe collection, New York.

Markham, Markwich. London. 1720-60. Maker of very choice watches, set in rich repoussé cases. One by him in collection of Tzar.

Markwick, James. London. Clockmakers' Company. 1666. Apprenticed to Gillpin.

Markwick, James. London. 1677. Admitted to Clockmakers' Company 1692. Warden 1717, 18, 19. Master 1720.

Markwick, James, 2. London. Clockmakers' Company. 1692.

Marlot, ——. Cranbrook. 1770.

Marquis, ——. Paris. 1780. Maker of Louis XVI. clocks, sold at auction for £168 at Christie's.

Marriott, John. London. Clockmakers' Company. 1715.

Marriott, John. London. 1768-1800. Clockmakers' Company. Fleet Street. Warden 1796, 97, 98. Master 1799. Maker of fine bracket clocks.

Marston, John. London. 1661. Fined 40s. for "deceitful work."

Marsden, John. London. 1698. Warden 1729, 30, 31. Master Clockmakers' Company, 1732.

Marsh, Anthony. London. Clockmakers' Company. 1724.

Marsh, Anthony. London. Clockmakers' Company. 1756-75. Beadle of Clockmakers' Company.

Marsh, Samuel. London. Clockmakers' Company. 1787-1818. Goodman's Fields.

Marsh, William. London. Clockmakers' Company. 1812. Gracechurch Street.

Marshall, Benjamin. London. Clockmakers' Company. 1680.

Marshall, John. London. Clockmakers' Company. 1689. Apprenticed to D. Quare.

Marshall, John. Newark. 1730. Maker of long-case clock, veneered mahogany, or inlaid walnut.

Marshall, Richard. Wolsingham. 1723.

Marshall, Richard, Jr. Wolsingham. 1768.

Marshall, Samuel. London. Clockmakers' Company. 1689.

Marshall, Samuel. London. Clockmakers' Company. 1718.

Marston, John. London. Clockmakers' Company. 1661.

Marston, William. London. Clockmakers' Company. 1669.

Marteau, Joseph. London. 1721.

Martin, ——. Liverpool. 1790. Maker of enamelled watch in Proctor collection.

"Martin No. 1 Royal Exchange." 1790.

Martin, Abraham. London. Clockmakers' Company. 1682. An engraver.

Martin, Jeremiah. London. 1687. Apprenticed to William Dent, turned over to Thomas Tompion. Made a Freeman, Clockmakers' Company, 1687.

Martin, John. London. 1682. White Gate Alley. 1682 sued for taking an undue number of apprentices.

Martin, John. Spalding. 1763. Became pastor of a Baptist congregation in London.

Martin, Thomas. London. Clockmakers' Company. 1699-1720.

Martin, Thomas. London. 1781. 27 Cornhill.

Martin, William. London. Clockmakers' Company. 1709.

Martinot, Barnaby. London. 1618. A Frenchman living in London.

Martinot, M., à Avignon. 1680.

Martineau, Joseph. London. 1781.

Marx, P. London. 1650.

Mascarone, George Batt. 1630. Maker of padlock-shaped, crystal watch with catgut spring. Bernal collection.

Mason, Henry. London. Clockmakers' Company. 1715.

Mason, John. Bristol. 1673. Maker of a curious church clock at Alderley.

Mason, John. London. Clockmakers' Company. 1712.

Mason, John. London. Clockmakers' Company. 1718.

Mason, Richard. London. Clockmakers' Company. 1632.

Mason, Samuel. London. Clockmakers' Company. 1712.

Mason, William. London. Clockmakers' Company. 1688.

Mason, William. London. 1781.

Massey, Edmund. London. Clockmakers' Company. 1682.

Massey, Henry. London. Clockmakers' Company. 1692.

Massey, Jacob. London. Clockmakers' Company. 1715.

Massy, Nicholas. London. 1682. He with his wife and four sons, refugees from France, were made free citizens of England, 1683.

Massy, Jacob. London. 1725-85. Made alarm watches.

Masters, James. London. Clockmakers' Company. 1810-

12. Primrose Street, Bishopsgate Street.

Masters, William. London. Clockmakers' Company. 1701.

Masterson, Richard. London. Died 1653. Renter warden 1636-38. Master 1642. Was transferred from Clothiers' to Clockmakers' Guild in 1636 and was one of the famous clockmakers of the Guild.

Maston, T. London. 1750.

Matchett, John. London. Clockmakers' Company. 1648-80.

Mather, Samuel. London. Clockmakers' Company. 1691.

Mathew, Francis. London. 1656.

Mathews, ——. Bishop's Castle. 1780. Very handsome clock, oak case with mahogany bands.

Mathews, Francis. London. Clockmakers' Company. 1656.

Mathews, John. London. Clockmakers' Company. 1731.

Mathews, William. London. Clockmakers' Company. 1731. Warden 1766. Put on livery 1766.

Mathey, Charles F. Neuchatel. 1800. Maker of a copper gilt repeating and calendar watch in Proctor collection.

Mattchett, John. London. 1656. Clockmakers' Company. Warden 1674, 75, 76.

Mattocks, John. London. 1787-1815. Clockmakers' Company. Took up livery.

Maudsley, T. London. 1750.

Mangham, J. H. Gateshead. About 1800.

Maul, P. London. 1760.

May, John. London. Clockmakers' Company. 1692. Dutch.

May, John. London. Clockmakers' Company. 1754.

May, William. London. Clockmakers' Company. 1679.

Mayland, Thomas. London. Clockmakers' Company. 1698.

Maynard, Christopher. London. Clockmakers' Company. 1667. Apprenticed to Hackett.

Maynard, George. London. 1781. Clockmakers' Company. Honorary Freeman.

Maypole, Richard. London. 1800. Maker of German silver watch with white dial in Proctor collection.

Mayr, J. P. Augsburg. 1770.

Mayr, Jacob. Augsburg. 1725-50.

Mayr, John. Dillingen, South Germany. About 1750. Maker of pair-case watch in collection of Robert Hoe, New York.

Mayson, John. London. Clockmakers' Company. 1704.

M'Donald, David. Edinburgh. 1822-35. The name M'Donald is often found on clocks, makers of that name being at

work in Edinburgh, Glasgow, and Inverness from 1785 to 1846.

M'Dowall, Charles. London. 1811-72.

McLachlan, Hugh. London. 1820-40.

McLachlan, John. London. 1791. Founder of the firm.

McPhail, C. London. 1830.

Meade, Garrett. London. Clockmakers' Company. 1703.

Meades, Thomas. London. Clockmakers' Company. 1687.

Mean, William. London. Clockmakers' Company. 1810. Jerusalem Passage, Clerkenwell.

Medhurst, Richard. Croydon. Clockmakers' Company. 1687.

Meigh, Moses. London. Clockmakers' Company. 1713.

Melville, John. London. 1781. Clockmakers' Company. Honorary Freeman.

Meniall, James. London. 1682.

Mercer, John. Hythe. 1720. Maker of bracket clocks.

Merchant, Samuel. London. 1698. He was one of the signers of a bill to regulate the art of clockmaking.

Meredith, John. London. Clockmakers' Company. 1664.

Meredith, John. London. 1760. Maker of watches, one with very fine case, gold repoussé, in Boston Museum.

Meredith, Launcellott. London. 1656.

Merfield, Charles. London. Clockmakers' Company. 1810. Goswell Street.

Merigeot, John. London. 1766. Clockmakers' Company. Took up livery.

Merra, ——. Maker of very elaborate clocks, one of which was in the Bernal collection.

Merrill, Charles, Jr. 1811. Botolph Lane.

Merriman, Benjamin. London. Clockmakers' Company. 1682.

Merry, Charles. London. 1766-86. Clockmakers' Company. Warden 1767, 68. Master 1769. Put on livery 1766.

Merryman, Henry. London. Clockmakers' Company. 1674.

Merttins, George. London. 1688. Clockmakers' Company. Warden 1711, 12. Master 1713. He was knighted 1713, in 1724 he was made Lord Mayor. Died 1727.

Merz, G. A. Augsburg. 1756.

Merz, Joseph. Augsburg. 1790-1805.

Mesniel, James. London. Clockmakers' Company. 1682. French.

Mestager, Henry. London. Clockmakers' Company. 1712.

Mestral, P. Paris. 1650-75.

Metcalf, George Marmaduke.

London. 1787-1816. Clockmakers' Company. Took up livery.

Meuron & Company. London. 1780. Maker of silver watch with engraved dial, Proctor collection.

Michaud, P. Paris. 1750.

Micklewright, Erasmus. London. Clockmakers' Company. 1673.

Micklewright, Erasmus. London. Clockmakers' Company. 1708.

Midnall, John. London. 1630. Clockmakers' Company. Was one of the first assistants. Warden in 1635. His name appears frequently in the Company's records.

Miege à Genève. 1750.

Milborne, John. London. Clockmakers' Company. 1698.

Miles, Septimus. London. Admitted Clockmakers' Company 1797. Livery 1810.

Mill, David. London. Clockmakers' Company. 1655-60.

Mills, Robert. London. Clockmakers' Company. 1786. Ratcliffe-highway.

Miller, John. Lurgan, Ireland. 1762. Maker of clocks and watches and mechanical clocks.

Miller, John. London. Clockmakers' Company. 1674.

Miller, Joseph. London. Clockmakers' Company. 1728.

Miller, Peter. London. Clockmakers' Company. 1681.

Miller, Ralph. London. Clockmakers' Company. 1697.

Miller, T. London. 1770. Maker of a pair-case watch, outer case repoussé, with scene showing the Queen of Sheba before Solomon. In the Robert Hoe collection, New York.

Millet, Edward. London. Clockmakers' Company. 1680.

Millet, William. London. 1714. Maker of watches.

Million, William. London. 1671. A great clockmaker and free of the Merchant Taylors.

Mills, Ralph. London. Clockmakers' Company. 1697.

Mills, Richard. Edinburgh. 1678-1705.

Mills, Thomas. London. Clockmakers' Company. 1652.

Minchindale, William. London. Clockmakers' Company. 1701.

Mitchell, John. London. Clockmakers' Company. 1712.

Mitchell, J. & W. Glasgow. 1841.

Mitchell, Myles. London. Clockmakers' Company. 1640.

Mitchell, Robert. London. 1787. Clockmakers' Company. Admitted to Livery.

Mitchelson, Walter. London. 1781.

Mitford, John. London. 1714.

Mitford, R. London. 1776-86. Clockmakers' Company. Admitted to Livery.

Mittcke, Frederica. Vienna. Eighteenth century. Oval metal watch with octagonal crystal faces. Mrs. George A. Hearn.

Mitzell, John. London. 1697. Maker of table clocks.

Moille, ——. Paris. 1750.

Moilliet, D. Geneva. 1750.

Moinet, Ainé. Horloger à Paris. 1845. Maker of a bronze clock in Second Empire style. In the collection of Robert Hoe, New York.

Moisy, ——. Paris. 1725. Maker of clock in ormolu case, Louis XV. period. Sold for £199 10s.

Molens, Charles. London. Clockmakers' Company. 1709.

Molina, Antonio. Madrid. 1800.

Molyneux, Robert. London. 1790.

Molyneux, R. & Sons. London. 1835-40.

Monceaud, ——. Paris. 1760.

Monday, Joseph. London. Clockmakers' Company. 1654.

Monks, ——. Prescot. About 1740. Maker of a splendid clock with marquetry case.

Montecot. Paris. Name on a clock dial, clock of early eighteenth-century design.

Moody, David. London. 1650. Gave a piece of silver to the Company 1652.

Moon, William. London. Clockmakers' Company. 1815-40. Holborn.

Moor, William. London. Clockmakers' Company. 1701.

Moore, Daniel. London. Clockmakers' Company. 1697.

Moore, Joseph. London. Clockmakers' Company. 1690.

Moore, Peter. London. 1790.

Moorell. London. 1750-75.

Moquieu. Geneva. 1750.

Mordsten, Aloys. Augsburg. 1800-04.

Morel, P. Geneva. 1750.

Morgan, John. London. Clockmakers' Company. 1703.

Morgan, Jude. London. Clockmakers' Company. 1654.

Morgan, Richard. London. Clockmakers' Company. 1631-50. One of the first assistants.

Morgan, Robert. London. Clockmakers' Company. 1637.

Morgan, Thomas. London. 1651-91. Clockmakers' Company. Clerk of Company.

Morgan, Thomas. Edinburgh. 1767-1806. Made both watches and clocks.

Morice, David. London. Clockmakers' Company. 1811. Fenchurch Street.

Morin. Marchinville. 1780-95.

Morlière. Blois. 1635. Painter of watch-cases.

Morris, Edward. London. 1677.

Morris, John. London. Clockmakers' Company. 1799.

Morton, John. London. 1700.

Moseley, Eleanor. London. Clockmakers' Company. 1726-34.

Moseley, William. London. Clockmakers' Company. 1680.

Moser, George Michael. London. 1767.

Moss, Thomas. London. Clockmakers' Company. 1775-1820. Ludgate Street.

Motley, Richard. London. Clockmakers' Company. 1682.

Motteux, Samuel. London. Clockmakers' Company. 1697.

Moulton, Henry. London. Clockmakers' Company. 1685.

Mount, William. London. Clockmakers' Company. 1692.

Mountfort, Zachariah. London. Clockmakers' Company. 1684.

Mowlton, Conan. London. Clockmakers' Company. 1700.

Mowlton, Henry. London. Clockmakers' Company. 1715.

Moyse, ——. Blois. 1560. Maker of a watch belonging to Mary Queen of Scots in the form of a skull.

Muckarsie, George J. London. Clockmakers' Company. 1824. Lincoln's Inn Fields.

Mudge, Thomas. Born 1715 in Exeter, died 1794. Apprenticed to and the successor of George Graham, a famous maker. He advertises this, November 18, 1751: "Thomas Mudge, Watchmaker and Apprentice to the late Mr. Graham, Carries on the Business in the same Manner Mr. Graham did, at the sign of the Dial and one Crown, opposite the Bolt and Tun in Fleet Street." Admitted to Clockmakers' Company 1730.

Mudge, Thomas & William Dutton. London. 1779-1791.

Muirhead, ——. London. 1810. Maker of long-case clocks.

Mulford, John. London. 1735. Died 1748.

Munden, Francis. London. Clockmakers' Company. 1653.

Munden, Francis. London. Clockmakers' Company. 1670.

Müller, Johann Gottlieb. Vienna. Gold watch enamelled in colour, early nineteenth century.

Munoz, Blas. Madrid. 1806-23.

Munro, George. Edinburgh. 1759-99. One of the most capable clockmakers of Edinburgh with a large business and many apprentices.

Murphy, P. Dublin. 1750.

Murray, David. Edinburgh. 1769-1801. Was one of James Cowan's apprentices, and a

skilled clock and watchmaker.

Murray, James. London. Clockmakers' Company. 1815-40. Sweeting's Alley, Cornhill.

Musgrave, G. Taunton. 1760.

Mussard, Daniel. London. Clockmakers' Company. 1686. A Genevese.

Myddleton, Timothy. London. Clockmakers' Company. 1687.

Myson, Jeremiah. London. Clockmakers' Company. 1698.

N

Nadauld, William. London. Clockmakers' Company. 1804-20. Houndsditch.

Narcot, John. London. Clockmakers' Company. 1681.

Nash, John. London. 1667. An instrument maker admitted to Clockmakers' Company.

Nash, Thomas. London. Clockmakers' Company. 1717.

Nathan, Henry. London. Clockmakers' Company. 1673-1700.

Nau, George. London. Clockmakers' Company. 1675.

Nau, Richard. London. Clockmakers' Company. 1661.

"Naumann, Joh. Heinr., Dresden." About 1840. Maker of clock in rosewood rococo style, dial gilt and silvered with black numerals. Robert Hoe collection.

Nauta, J. Leuwaerden, Germany. About 1750. Maker of a gold watch with enamel case painted by "Frères Huand," in the Robert Hoe collection, New York.

Neale, Henry. London. 1697.

Needham, Benjamin. London. Clockmakers' Company. 1709.

Neighbor, William. London. Clockmakers' Company. 1685.

Neileson, H. London. 1750.

Nelmes, Robert. London. Clockmakers' Company. 1717.

Nellson, James. London. 1638-60. Apprenticed to Oswald Durant, 1638.

Nelson, Robert. London. Clockmakers' Company. 1687.

Nemes, John. London. Clockmakers' Company. 1724.

Nemes, Robert. London. Clockmakers' Company. 1717.

Nerry, John. London. 1750. Watch made by him in Guildhall.

Neuwers, Michael. London. 1599. Clockmaker.

Neveren, D. London. 1800.

Newcombe, Joseph, Jr. 1811. Hansard Place, Blackfriars Road.

Newell, William. London. Clockmakers' Company. 1811. Whitecross Street.

Newman, John. London. Clockmakers' Company. 1811. Foundling Hospital.

Newman, John A. London. Clockmakers' Company. 1811. Whitecross Street.

Newman, Robert. London. Clockmakers' Company. 1812. Whitecross Street. Clock by him, in oak case, owned by F. A. H. Bodington, Little Compton, R. I.

Newnham, Nathaniel. London. Clockmakers' Company. 1703.

Newsam, Bartholomew. London. 1568-86. Bequeathed his tools to his son on condition that he become a clockmaker. A famous clockmaker.

Newton, William. London. Clockmakers' Company. 1685.

Nicasius, John. London. Clockmakers' Company. 1632-75. Abused the Master in 1668 and was fined 40s. Warden 1648, 49, 50, 51. Master 1653, 55.

Nichol, Isaac. London. Clockmakers' Company. 1681.

Nicol, James. Edinburgh. 1730.

Nicol, William. Edinburgh. 1748-76. Son of James, both of them makers of fine tall clocks as well as watches.

Nicholls, Roger. London. Clockmakers' Company. 1667.

Nicholls, Thomas. London. Clockmakers' Company. 1705.

Nichols, Thomas. London. Clockmakers' Company. 1720. Apprenticed to Edward East.

Nicole à Genève. 1820.

Nicole, John. London. 1371. Keeper of the great clock at Westminster.

Niggl, Joseph. Salzburg. 1750.

Niloe, Hans. London. 1609.

Nixon, Thomas. London. 1610.

Noakes, James. London. 1796. Houndsditch. Clockmakers' Company.

Noakes, James. London. Clockmakers' Company. 1811-19.

Noble, William. London. 1760. Maker of long-case clocks.

Nobson, John. London. Clockmakers' Company. 1687. Apprenticed to D. Quare.

Nodes, William. London. 1790.

Noel, Aymé. 1625. Maker of watches with crystal cases.

Nollorth, Charles. Yarmouth. 1775.

Norcott, John. London. Clockmakers' Company. 1681-90.

Norgate, John. London. Clockmakers' Company. 1712.

Norris, Edward. London. Clockmakers' Company. 1658-86. Warden 1682, 83, 84. Master 1686.

Norris, Joseph. London. Clockmakers' Company. 1670.

Norris, Josephus. Amsterdam. 1700. Maker of a watch with portrait of William III. on white horse at Battle of the Boyne. Bernal collection.

North, John. London. Clockmakers' Company. 1650.

North, John. London. Clockmakers' Company. 1720.

North, William. London. Clockmakers' Company. 1630-64. Presented a cup to Clockmakers' Company.

Northcote, Samuel. Plymouth. 1780.

Norton, Eardley. London. Clockmakers' Company. 1770-90. Clerkenwell. Maker of bracket clocks, repeating, musical and astronomical, with handsome cases, and often with chimes.

Norton, Samuel. London. Clockmakers' Company. 1776-80.

Norton, Thomas. London. Clockmakers' Company. 1720.

Northward, J. London. 1750.

Nourse, Thomas. London. 1787.

Nouwen, Michael. London. 1599.

Nowroe, Thomas. London. 1790.

Nurse, John. London. Clockmakers' Company. 1718.

O

Oakley, William. London. Clockmakers' Company. 1804-18. High Street, St. Giles.

Ogden, Thomas. London. Clockmakers' Company. 1659.

Okeham, Edward. London. 1632.

Okeham, Thomas. London. Clockmakers' Company. 1632.

Oilwyn, J. Amsterdam. 1750.

Oliphant, Robert. London. Clockmakers' Company. 1811. Leadenhall Street.

Oliver, Thomas. London. 1775-1800. Maker of eight-day clocks.

Ordson, William. London. 1730.

Orpion, J. London. About 1760. Maker of a pair-case gold watch in Robert Hoe collection, New York.

Orton, Edward. London. Clockmakers' Company. 1687.

Osborn, William. London. Clockmakers' Company. 1700.

Osborne, ——. Birmingham. 1810. On a clock in Pennsylvania Museum of Fine Arts.

Osman, Richard. London. Clockmakers' Company. 1817. White Street, Southwark.

Outred, Benjamin. London. Clockmakers' Company. 1639.

Overbury, Henry. Rotterdam. 1705.

Overbury, Thomas. London. Clockmakers' Company. 1688.

Overzee, Gerard. London. 1678-90. A great clockmaker, and naturalized subject.

Owens, William. London. 1740. Maker of ebony case repeating mantel clock in Gilbert collection.

Ownes, William. London. 1810. This name is found on long-case clocks.

P

Pace, Thomas. London. Clockmakers' Company. 1634-60.

Pace, Thomas. London. 1800-40. Whitechapel. Many clocks by him to be found in America.

Pack, Richard. London. Clockmakers' Company. 1712.

Page, Henry. London. Clockmakers' Company. 1713.

Page, Joseph. London. Clockmakers' Company. 1683.

Page, R. London. 1730.

Paget, Ambrose. London. Clockmakers' Company. 1728.

Paillion, ——. Paris. 1740.

Pailliard, Victor. Paris. 1780. Maker of choice brass clock.

Pain, Thomas. London. 1780. Maker of long-case clocks.

Pain, William. London. Clockmakers' Company. 1729.

Palanson à Paris. 1750. Louis XV.

Palfrey, John. London. Clockmakers' Company. 1654.

Palmer, Robert. London. Clockmakers' Company. 1776.

Palmer, Thomas. London. Clockmakers' Company. 1776. Fetter Lane.

Palmer, William. London. Clockmakers' Company. 1776.

Pamer, Edward. London. 1780.

Pamphillon, William. London. Clockmakers' Company. 1725.

Panchaud, David. London. Clockmakers' Company. 1802. Aske's Terrace, Hoxton.

Panier, Josue, à Paris. 1725.

Papanoyne, Isaac. London. Clockmakers' Company. 1687-1700. French.

Papon, Leonard, à Gean. 1630.

Papus, ——. Rennes. 1650.

Papworth, John. London. Clockmakers' Company. 1688.

Paradisi, John. London. Clockmakers' Company. 1716.

Parish, Simon. London. Clockmakers' Company. 1723.

Park, Nicholas. London. Clockmakers' Company. 1641.

Parker, John. London. Clockmakers' Company. 1674.

Parker, John. London. 1677.

Parker, John. London. Clockmakers' Company. 1706.

Parker, Robert. London. Clockmakers' Company. 1698. Apprenticed to J. Markwick.

Parker, Thomas. Dublin. 1750.

Parker, Thomas. London. Clockmakers' Company. 1669.

Parkes, John. London. Clockmakers' Company. 1678.

Parkington, W. London. 1840.

Parkinson, William. London. Clockmakers' Company. 1802. Freeman 1802. Livery 1811.

Parkinson & Frodsham. 1800-37. Change Alley.

Parsons, John. London. Clockmakers' Company. 1696.

Parsons, Richard. London. Clockmakers' Company. 1690.

Parten, William. London. Clockmakers' Company. 1720.

Parter, Francis. London. Clockmakers' Company. 1730.

Parter, William. London. Clockmakers' Company. 1692.

Partridge, William. London. 1650. He sent a petition to Charles I. asking to be reinstated as clockmaker "to succeed Da. Ramsay." Gave two silver spoons to Clockmakers' Company.

Parkwick, James. London. 1698.

Pascal, Claude, à la Haye. 1640.

Pashler, E. 1770. Maker of fine bracket clocks.

Passement, Admiral. 1750. Maker of equation clocks.

Patching, Elisha. London. Clockmakers' Company. 1728.

Patrie, John. London. Clockmakers' Company. 1712.

Patron, Jacques. 1750. Maker of a round silver-gilt watch showing hours and minutes, striking hours and half-hours, with outer case of tortoise-shell. Bernal collection.

Patry et Cheneviere. France. Makers of a small watch in blue enamelled case, balloon shape. Bernal collection.

Pattee, Thomas. London. Clockmakers' Company. 1810. Plummer's Row, Commercial Road.

Patrick, John. London. Clockmakers' Company. 1712.

Patterson, James. Edinburgh. 1789-1850. He was clock and watch maker at the sign of the "Gilded Watch." He advertises that he made eight-day clocks in mahogany and wainscot cases.

Patterson, Robert. London. Clockmakers' Company. 1668.

Paty, William. London. 1750.

Paul, Thomas. London. Clockmakers' Company. 1670.

Paull, George. London. 1830-35.

Paull, P. London. 1810-23.

Payne, Nicholas. London. Clockmakers' Company. 1671.

Payne, Richard. London. Clockmakers' Company. 1725.

Payne, Robert. Waltham, England. 1813.

Payne, Southern. London. Clockmakers' Company. Warden 1775, 76, 77. Master 1778. Put on livery 1766.

Peace, William. London. Clockmakers' Company. 1796. Swithins Lane.

Peachy, James. London. Clockmakers' Company. 1811. Norman Street, St. Luke's.

Peachy, Newman. London. Clockmakers' Company. 1766-86.

Peachy, William. London. Clockmakers' Company. 1727.

Peacock, George. London. 1781.

Pearce, Adam. London. Clockmakers' Company. 1664.

Pearce, William. London. Clockmakers' Company. 1787. Master 1804.

Pearson, John. Flesh Market, Newcastle. 1790.

Peatting, Thomas. London. Clockmakers' Company. 1682.

Peck, George. London. Clockmakers' Company. 1725.

Peckett, John. London. Clockmakers' Company. 1691.

Peckover, Richard. London. 1737-56.

Peere, Mr. London. Clockmakers' Company. 1654.

Peies, ——. Paris. 1750.

Penfold, Joshua. London. Clockmakers' Company. 1695.

Penkettman, Thomas. London. Clockmakers' Company. 1692.

Pennock, John. London. Clockmakers' Company. 1638-75. Warden 1654, 55, 56, 57. Master 1660, 63. In 1652 gave a house clock to the Company, of his own making.

Penny, John. London. Clockmakers' Company. 1812. Scotland Yard. Came from Portsea, Hants, 1796.

Penny, John, Jr. London. Clockmakers' Company. 1813. Scotland Yard.

Pepper, Thomas. London. 1787-94.

Pepys, John. London. Clockmakers' Company. 1680. Warden 1705, 06. Master 1707.

Pepys, John, Jr. London. Clockmakers' Company. 1715. Master 1739.

Pepys, Richard. London. Clockmakers' Company. 1674.

Pepys, William. London. Clockmakers' Company. 1723.

Percy, Charles. London. 1790.

Peres, Mark. London. Clockmakers' Company. 1680.

Perigal, Francis. London. Clockmakers' Company. 1753-80. Warden 1753, 54, 55. Master 1756.

Perigal, Francis, 2. London. 1756-87. Clockmakers' Company. Warden 1772, 73, 74. Master 1775. Was made Honorary Freeman 1781. Put on livery 1789.

Perigal, F .S., Jr. London. Clockmakers' Company. Warden 1803, 04, 05. Master 1806.

Perigal, John. London. 1781.

Perkins, Eysum, "at the end of Love Lane." 1682. Not admitted but working.

Perkins, James. London. Clockmakers' Company. 1730.

Perry, Henry. London. Clockmakers' Company. 1691.

Perry, John. London. 1730.

Perry, J. A. London. Clockmakers' Company. 1807. Warden 1846, 47, 48, 49. Master 1850, 51.

Perry, Peter. London. Clockmakers' Company. 1812. Minories.

Perry, Thomas. London. 1790.

Petit, Jacob. 1780. Porcelain clocks — cases with Sèvres panels.

Petit, William. London. 1630-52. He gave the Company a silver-gilt cup and cover.

Petri, ——. Heidelberg. 1650.

Petter, Christopher. London. Clockmakers' Company. 1730.

Petty, William. London. Clockmakers' Company. 1646.

Pfanch, J. Gratz. 1575.

Pfeffenhauser, P. H. Augsburg. 1725.

Pfluegritter, H. Nuremberg. 1556.

Philibert à Paris, about 1780. Gilt-bronz clock on marble base. The engraved bronze case in form of a vase, with dolphin handles. The ornamentations were reeds, oak leaves, and ribbons about the dial. This was one of several clocks made on this model. Robert Hoe collection, New York, 1911.

Philip, Robert. London. 1781-88.

Phillip, William. Edinburgh. 1794-1850.

Phillips, Charles T. London. Clockmakers' Company. 1830. Kingston, Surrey.

Phillips, Philip. London. Clockmakers' Company. 1790-1805. Haverford West, Pembroke.

Phillips ,Thomas. London. 1697.

Phleisot, ——. Dijon. 1540.

Pierce, William. London. Clockmakers' Company. Warden 1801, 02, 03. Master 1804.

Pasquier, Pierre. London. Clockmakers' Company. 1648.

Pigott, Henry. London. Clockmakers' Company. 1687.

Pike, John. London. Clockmakers' Company. 1840.

Pilling, John. Boothfold. 1790-1800. Long-case mahogany clock inlaid with pear-drop, dentils of ivory.

Pinchbeck, Christopher. London. 1721. Watch and clock

maker and inventor of metal called "pinchbeck."

Pinchbeck, Christopher, Jr. London. 1781. Made an Honorary Freeman.

Pinchbeck, Edward. London. 1733. Son of Christopher.

Pinchbeck & Norton. London. 1765.

Pinson, John. London. 1677.

Pipps, John. London. 1790.

Pitan, James. London. Clockmakers' Company. 1710.

Pitcher, John. London. Clockmakers' Company. 1689.

Pitman, John. London. Clockmakers' Company. 1714.

Pitt, Thyar. London. Clockmakers' Company. 1787-96.

Pitt, William. London. Clockmakers' Company. Garlick Hill. 1787.

Piquet à Rennes. 1680.

Place, ——. London. 1750.

Plairas, S. Blois. 1640.

"Planchon, Palais Royal." 1730. Tall clock in carved oak case with bronze engraved dial. Robert Hoe collection, New York.

Planner, Thomas. London. Clockmakers' Company. 1701.

Planner, Thomas. London. Clockmakers' Company. 1730.

Plant, Edward. London. Clockmakers' Company. 1664.

Player, Robert. London. Clockmakers' Company. 1700. Maker of very fine marquetry long-case, square-dial, bull's-eye clock.

Player, Thomas. London. Clockmakers' Company. 1672.

Pleverie, Isaac. London. Clockmakers' Company. 1652.

Pluett, Anthony. London. Clockmakers' Company. 1697.

Plumley, Charles. London. Clockmakers' Company. 1825. Ludgate Hill.

Plumley, John. London. Clockmakers' Company. 1826. Ludgate Hill.

Plumley, William. Shepton-Mallet, Somersetshire. 1786.

Plumley, William. London. Clockmakers' Company. 1756. Warden 1776, 77, 78. Master 1779.

Plumley, William, Jr. London. Clockmakers' Company. 1780. Warden 1798, 99, 1800. Master 1801. Ludgate Hill.

Poisson, Henry. London. 1700.

Pollinger, J. W. Friedburg. 1741.

Pomeroy, Joseph. London. Clockmakers' Company. 1728.

Ponchon le Jeune. Paris. 1770.

Pooel, J. C. London. 1654.

Poole, Robert. London. Clockmakers' Company. Warden 1778, 79, 80. Master 1781. Put on livery 1766.

Poole, Robert. London. Clockmakers' Company. 1786. Aldersgate Street.

Pools, Edmonde. London. Clockmakers' Company. 1722.

Poratt, ——. London. 1760.

Potter, George. Coventry. 1727.

Potter, Harry. London. Clockmakers' Company. Warden 1792, 93, 94, 1811. Master 1795, 1812. Died in office.

Potter, Henry. London. Clockmakers' Company. 1786. Well Street, Cripplegate.

Potter, James. London. Clockmakers' Company. 1810. Bishopsgate Street Without.

Potter, John. London. 1633. Beadle of Clockmakers' Company.

Poulson, William. London. Clockmakers' Company. 1801. Whitecross Street.

Pouzait, ——. Geneva. 1780-1800.

Powell, Bartholomew. London. Clockmakers' Company. 1668.

Powell, Robert. London. Clockmakers' Company. 1710.

Poy, Godfrie. London. 1730. Maker of a repeating watch richly set with diamonds and emeralds in Tzar's collection.

Poy, Godfrie. London. 1780-90. Made clocks and very fine watches.

Praun, Hanno. Nuremberg. 1565.

Prerie, Humphrey. London. Clockmakers' Company. 1653.

Prestige, Bartholomew. London. Clockmakers' Company. 1703.

Preston, Edward. London. Clockmakers' Company. 1721.

Prestwood, Joseph. London. Clockmakers' Company. 1703.

Prevost, L. N. London. Date letter 1750. On a watch.

Prideaux, Edmund. London. 1780-90. Maker of a gold pair-case watch, outer case repoussé with scene showing an oriental betrothal. In the collection of Robert Hoe, New York.

Priddith, John. London. Clockmakers' Company. 1639.

Pridham, Daniel. London. 1765.

Pridham, William. London. 1760.

Priest, Thomas. London. Clockmakers' Company. 1729.

Prigg, John. London. 1766.

Prigg, John. London. Clockmakers' Company. 1786. Horseshoe Alley, Moorfields.

Prime, Abraham. London. Clockmakers' Company. 1672.

Prince, Richard. London. Clockmakers' Company. 1680.

Print, Richard. London. Clockmakers' Company. 1698.

Prior, Edward. London. 1817. Maker of a double-case gold

watch enamelled in colours on a turquoise ground. In the collection of Robert Hoe, New York.

Prior, George. London. 1781.

Prior, George. London. 1812. Maker of gold watch repeater, triple case, all three cases beautifully decorated with enamelled flowers, date letter 1812. Mrs. George A. Hearn's collection.

Proctor, William. London. Clockmakers' Company. 1811. Whitecross Street.

Puckridge, Charles. London. 1785. Maker of long-case clock in Chippendale style.

Puckridge, John. London. Clockmakers' Company. 1790-1814. Snow Hill.

Prynne, Andrew. London. Clockmakers' Company. 1647.

Puller, Jonathan. London. Clockmakers' Company. 1683.

Purrier, Richard. London. Clockmakers' Company. 1705.

Putley, Francis. London. Clockmakers' Company. 1812. Newington Causeway.

Pyke, John. London. 1750. Clockmakers' Company.

Pyke, George. London. 1753. Clockmakers' Company. Son of John. Freeman 1753.

Pyne, Nathaniel. London. Clockmakers' Company. 1677.

Pyons, William. London. 1790.

Q

Quainte, ——. London. 1650-1700. Maker of a round gold watch enamelled by Huand Frères, with outer case of shagreen.

Quare, Daniel. London. Admitted Clockmakers' Company 1671. Warden 1705, 06, 07. Master 1708. He was a great clockmaker. In 1676 he invented the repeating movement in watches by which they were made to strike at will. In 1687 placed the minute hand concentric with the hour hand on clocks. A clock by him at Hampton Court goes twelve months with one winding. In 1695 he obtained a patent for barometers. He died in 1724 and was buried in the Quaker burying-ground at Bunhill Fields.

Quare & Horseman. London. 1700-37. Makers of splendid watch and chatelaine set with pink topazes, in Tzar's collection.

Quash, Joseph. London. Clockmakers' Company. 1646.

Quin, Edward. London. Clockmakers' Company. 1805. Fleet Street.

R

Rabby à Paris. 1745.

Racine, Charles F. Chaux-de-Fonds. 1810-32.

Radcliffe, ——. Liverpool. 1750.

Radford, Henry. London. Clockmakers' Company. 1721.

Radiord, Henry. London. 1721.

Rael, ——. Amsterdam. 1765.

Raiment, Thomas. London. Clockmakers' Company. 1719.

Raines, William. London. Clockmakers' Company. 1660.

Raingo, ——. Paris. 1790. Maker of fine astronomical clocks.

Rainhold, A. Poesneck. 1687.

Rainier, Daniel. London. Clockmakers' Company. 1806. Angel Court, Throgmorton Street.

Rainier, John. London. Clockmakers' Company. 1787-1811. Hackney.

Rainsford, Francis. London. Clockmakers' Company. 1689.

Ramsay, David. London. 1612, died 1650. First Master of Clockmakers' Company, Clockmaker to King James I., and a great clockmaker. He was groom of the bedchamber to the Prince and in 1613 had a pension of £200 a year. In the same year £50 more was granted him. In 1616 £234 was given him for care and repair of the King's clocks, and he was styled "Clockmaker Extraordinary." In November, 1618, he was appointed "Chief Clockmaker," and for many years his fees and emoluments were large. He continued his office under Charles I., and he died shortly after 1650. Sir Walter Scott, in "The Fortunes of Nigel," calls him "Memory Monitor, Watchmaker and Constructor of Horologes to His Most Sacred Majesty James I." He frequently inscribed his watches, "David Ramsay Scotus me fecit."

Ramsay, Patrick. Dundee. 1604-46. A relative of David Ramsay, the famous English clockmaker to James I.

Ramsden, Thomas. London. Clockmakers' Company. 1648.

Ranceford, Barnard. London. Clockmakers' Company. 1677.

Rankin, ——. London. 1775.

Rant, John. London. Clockmakers' Company. 1687.

Rant, Jonathan. London. Clockmakers' Company. 1687.

Ranzonet, ——. Nancy. 1770.

Rauhenecker, M. Augsburg. 1738.

Raurworth, S. Plymouth. 1750.

Rawlins, Henry. London. Clockmakers' Company. 1706.

Rawlins, James. London. Clockmakers' Company. 1792. Penton Place, Pentonville. In 1833 went to Liverpool.

Rawlings, Charles. London.

Clockmakers' Company. 1826. Holborn.

Ray, Daniel. Sudbury. 1770.

Rayner, John. London. Clockmakers' Company. 1697.

Rayner, Stephen. London. Clockmakers' Company. 1691.

Raynesford, Benjamin. London. Clockmakers' Company. 1709.

Read, Thomas. London. 1632.

Reading, P. London. 1740.

Rebellier, M. Paris. 1827-39. Maker of rock crystal watches.

Reed, Alexander. London. Clockmakers' Company. 1706.

Reed, George J. London. Clockmakers' Company. 1820. Rosoman Street.

Reeve, Henry. London. Clockmakers' Company. 1682.

Reeve, Jarvis. London. Clockmakers' Company. 1731.

Reeve, John. London. Clockmakers' Company. 1712.

Reeve, Thomas. London. Clockmakers' Company. 1648-55.

Regaud, Remond. London. Clockmakers' Company. 1677.

Rehle, John. Freiburg. 1690. Maker of table clocks.

Reich, Lorenz. Augsburg. 1741.

Reicheneder, L. Burghausen. 1750.

Reichenmann, Leonhard. Friedburg. 1795.

Reid, Thomas. Edinburgh. 1766-1830. One of the most eminent of Scottish makers. He studied his trade in London, staying there from 1770 to 1781. He returned to Edinburgh, took out his freedom, and opened business in Parliament Close. William Auld became his partner in 1806, and they retired and sold out in 1823.

Reid, Thomas, & Son. Newcastle. 1750.

Reinhold, John. Augsburg. 1584.

Reith, James. London. Clockmakers' Company. 1705.

Reitmeyer, J. A. Augsburg. 1794.

Rensman, Gerrit. 1720.

Rentzsch, Sigismund. London. 1813-23.

Renzsea, ——. Constanz. 1750-75.

"Resler, Nicolaus in Prag." Maker of a gilt bronze and silver table clock with chimes. In the Robert Hoe collection, New York, 1911.

Revel, ——. Paris. 1760. Maker of fine mantel clock with ormolu mounts. Gilbert collection.

Rewalling, Thomas. London. Clockmakers' Company. 1715.

Rey, Isaac, & J. Japs. England. About 1750. Makers of a gold watch with elaborately enamelled case in the

collection of Robert Hoe, New York.

Reynolds, John. Hagbourn. 1733. A blacksmith, but a maker of church clocks.

Reynolds, John. London. Clockmakers' Company. 1786.

Reynolds, Joseph. London. Clockmakers' Company. 1691.

Reynolds, Thomas. London. Clockmakers' Company. 1705.

Reynolds, Thomas. "St. Martin's le Grand." 1736-80.

Richard, Peter. London. Clockmakers' Company. 1679.

Richards, Henry. London. Clockmakers' Company. 1699.

Richards, Hugh. London. Clockmakers' Company. 1709.

Richards, Hugh. London. Clockmakers' Company. Warden 1733, 34. Master 1735.

Richards, J. London. 1780.

Richards, Luke. London. Clockmakers' Company. 1648.

Richardson, James. London. Clockmakers' Company. Warden 1785, 86, 87. Master 1788.

Richardson, James Luton. Bedfordshire. 1786. Clockmakers' Company.

Richardson, John. London. Clockmakers' Company. 1810. Hoxton Town.

Richardson, Richard. London. Clockmakers' Company. 1675.

Ricord, Richard. London. Clockmakers' Company. 1649.

Riddlesdon, Samuel. London. 1810. Citizen and Joiner. Admitted to Clockmakers' Company.

"Rider of Pool." About 1760. Maker of a fine clock in Chippendale case, which fetched £483 at Christie's, July, 1909.

Ridgdale, N. About 1625-50. Maker of an oval finely chased silver watch in Bernal collection.

Ridley, Josiah. London. Clockmakers' Company. 1685.

Riebold, J. Regensburg. 1727-50.

Riedl, ——. Vienna. 1680-1700.

Rigby, Joshua. London. 1781.

Rimbauet, Paul. London. 1781.

Ring, Joseph. London. Clockmakers' Company. 1693.

Ringmadder, ——. Dublin. 1792.

Rippon, Richard. London. 1810.

Ritchie, James. Edinburgh. 1819-36. One of the best known of Scottish makers. In 1836 the firm name became James Ritchie & Son and so continues till the present day.

Rivers, David. London. 1786. Clockmakers' Company. Warden 1770, 71, 72. Master 1773. Put on livery 1766.

Rivers, William. London. 1770-94. Clockmakers' Company. Warden 1791, 92, 93. Master 1794.

Robb, William. Montrose, Scotland. 1776. Maker of handsome tall-case clock at Pennsylvania Historical Society.

Roberts, Hugh. London. Clockmakers' Company. 1664.

Roberts, John. London. 1776. Son of Samuel. Freeman of the Clockmakers' Company 1776.

Roberts, Samuel. London. 1718. "Citizen and Gold and Silver Wyre Drawer."

Robertson, David. Edinburgh. 1741. A common name among Scottish makers in Edinburgh, Dundee, and Glasgow for one hundred years.

Robin, ——. France. Born 1742, died 1799. Horloger du Roi 1791. Clockmaker to Louis XV. and made many fine clocks in cases with ormolu mounts.

Robinet, Charles. Paris. 1640.

Robins, William. London. 1796. Clockmakers' Company. Warden 1802, 03, 04. Master 1805.

Robins, William, 2. Clockmakers' Company. Warden 1813. Master 1813, 1814.

Robinson, Francis. London. Clockmakers' Company. 1707-26. "Sergt. to his Royal Highness." Freeman 1707. Assistant 1717. Warden 1722, 23, 24. Master 1725. One of Henry Jones's apprentices.

Robinson, James. London. 1730-70. Maker of long-case clocks.

Robinson, Robert. London. Clockmakers' Company. 1652.

Robinson, Ruhamer. London. Clockmakers' Company. 1713.

Robinson, Thomas. London. Clockmakers' Company. 1703.

Robinson, William. London. Clockmakers' Company. 1720. Apprenticed to Daniel Delander.

Robinson, William. London. Clockmakers' Company. 1667.

Robson, William. London. 1796. Warden 1806, 07, 08, 15. Master 1809, 16, 18. Elected Master three times and received vote of thanks of Clockmakers' Company.

Robson, William, 2. London. Clockmakers' Company. Warden 1821, 22.

Roches, Frères de, à Genève. Late eighteenth century. Watchmakers.

Rodet, ——. London. 1650.

Rodon, De. Paris. 1800. Maker of copper-gilt case watch in Proctor collection.

Rogers, Isaac. London. Clockmakers' Company. 1750-90.

Rogers, Isaac. London. Clockmakers' Company 1776. Born 1754, died 1839. Warden 1810, 11, 12, 23. Master 1824. He succeeded to the business of his father 1776, as watchmaker and Levant merchant. He had many wide interests and did much to further the interests of the Company.

Rogers, John. London. Clockmakers' Company. 1731.

Rogers, Thomas. London. Clockmakers' Company. 1811. Field Lane, Holborn.

Rogers, William. London. 1662. Beadle of Clockmakers' Company.

Rogers, William. London. Clockmakers' Company. 1641.

Rogerson, William. London. Clockmakers' Company. Warden 1771, 72, 73. Master 1774. Put on livery 1766.

Rollet, George. Augsburg. 1584.

Rollin, ——. Paris. Eighteenth century. Maker of fine enamel watches.

Romer, Flack. London. Clockmakers' Company. 1661.

De Romeux, Lewis. London. Clockmakers' Company. 1706.

Romieu, Paul. Edinburgh. 1677-94. A very famous clock and watch maker, one of the earliest competent watchmakers of Edinburgh. There is a "pendulum" watch by him belonging to the Clockmaker's Company of London.

Romieu, Paul, Jr. Edinburgh. 1692-1710. Maker of long-case clocks. One of these, in elaborate case of coloured marquetry, is still in going order, the property of J. Paterson, Esq., Biggar, Lanarkshire.

Romney, Joseph. London. Clockmakers' Company. 1664.

Ronnizen, Adam. London. Clockmakers' Company. 1687.

Roof, Daniel. London. Clockmakers' Company. 1676.

Rooke, John. London. 1781.

Rooker, Richard. London. Clockmakers' Company. 1728.

Rooks, Barlow. London. Clockmakers' Company. 1665.

Rookesby, Robert. London. 1680.

Rose, Joseph. London. 1765.

Rose, Joseph, & Son. London. 1765-68. 19 Foster Lane. Maker of a long-case clock in a mahogany case, lower part kettle-shaped, owned in America.

Rose, Joseph, Son & Payne. London. 1781.

Rose, Michael. London. Clockmakers' Company. 1676.

Rose, William. London. Clockmakers' Company. 1786. Coldbathfields.

Rosentretter, P. Nuremberg. 1566-80.

Rosfar, ——. Vienna. 1750.

Roskell, Robert. Liverpool. 1800-30. His watches were on sale in New York by Fellows, Read & Olcott, 17 Maiden Lane, in 1829.

Rosse, Samuel. London. Clockmakers' Company. 1672.

Rosselet, ——. Paris. 1800.

Roth, F. A. Augsburg. 1759.

Rotherham, Thomas. London. Clockmakers' Company. 1662.

Rotherham & Sons. Coventry. 1850.

Rothwood, Robert. London. 1630. Clockmaker.

Rotherwood, Robert. London. Clockmakers' Company. 1648.

Rotterodd, Benjamin. 1600-25. Maker of a watch in Bernal collection.

Rotti, G. L. Augsburg. 1755-75.

Rotti, G. L., Jr. 1788-1800.

Rotti, Caspar. Augsburg. 1788.

Rotti, G. I. Augsburg. 1791.

Roumieu, Adam. London. Clockmakers' Company. 1695. A member of the celebrated family of which Paul Roumieu was the most famous.

Roumieu, Adam. London. Clockmakers' Company. 1726.

Roumieu, John. London. Clockmakers' Company. 1720.

Roumieu, Paul. See Romieu.

Roumayen, James. London. Clockmakers' Company. 1692.

Rousseau, Jean. 1640. A round silver watch engraved with figures of the seasons and flowers. Bernal collection.

Rowe, Benjamin. London. Clockmakers' Company. 1708.

Rowe, Thomas. London. Clockmakers' Company. 1699.

Rowland, John. Berwick. Born 1758, died 1836.

Rowland, William. Berwick. Born 1799, died 1858.

Rowlands, William. London. 1815. Clockmakers' Company. Warden 1856, 57, 58, 59. Master 1860. Presented to the Company several pieces of silver in 1861.

Roy, David. London. Clockmakers' Company. 1682.

Roy, Peter. Paris. Died 1785. Author of the "Memoirs of the Clockmakers of Paris."

"Roy à Paris." About 1760. Gilt bronze and enamel clock with white marble base. In the Robert Hoe collection, New York.

Royce, ——. London. 1750.

Roycroft, Thomas. London. Clockmakers' Company. 1699.

Rudkin, Thomas. London. Clockmakers' Company. 1683.

Ruel, S. Rotterdam. 1705.

Ruffel, Charles. London. 1804.

Ruffel, Thomas. London. 1804.

Rugendas, Nicholas. Augsburg. 1600.

Rummel, J. Oberhausen. 1770.

Rumpelsberger, George J. Wurzburg. 1794.

Rundell, Philip. London. 1768. Made very beautiful watches; one of them had an enamel case by Voyez, the potter, enameller and ivory carver.

Russell, John. Falkirk. 1797-1818. A famous Scottish maker of chiming clocks.

Russell, Nicasius. London. Clockmakers' Company. 1663. Apprenticed 1653. Warden 1688, 89, 90. Master 1692. In 1701 his son brought £10 to be distributed to the poor of the Company in memory of his father, who had died the previous year.

Russell, Thomas. London. Clockmakers' Company. 1776.

Ryder, Thomas. London. Clockmakers' Company. 1698.

Ryder, Thomas. London. Clockmakers' Company. 1712.

Ryland, James. "Ormskirk." Eighteenth century.

Ryland, Joshua. "Ormskirk." Eighteenth century.

Ryler, William. London. Clockmakers' Company. 1712.

Ryley, Thomas. London. Clockmakers' Company. 1704.

S

Sabourin, ——. London. 1750-60.

Sacheverell, Benassir. London. Clockmakers' Company. 1687. Apprenticed to Tompion.

Sack, Solomon. Augsburg. 1732-40.

Sackerer, Caspar. Munich. Eighteenth century.

Sadleir, Samuel. London. Clockmakers' Company. Warden 1723.

Saer, Joseph. London. Clockmakers' Company. 1687.

Saffell, Charles Wilson. London. Clockmakers' Company. 1811. New Bridge Street.

Salmon, Charles. London. Clockmakers' Company. 1821. Paddington Street, Marylebone.

Salmon, Henry. London. 1770-80.

Sambrook, John. London. Clockmakers' Company. 1680.

Samon, John. London. Clockmakers' Company. 1654.

Samson, ——. London. 1794. Maker of a silver watch with outer case of tortoise-shell, with marine scene painted on the back, inner case plain. date letter 1794. Mrs. George A. Hearn collection.

Samson, S. London. 1784. On a fine watch.

Sanchez, Cayetano. Madrid. 1793-1800.

Sanders, Daniel. London. Clockmakers' Company. 1632.

Sanders, George. London. 1790.

Sanderson, George. Exeter. 1762.

Sanderson, Henry. London. 1781.

Sanderson, John. Wigton. 1715-30. Maker of an old English lantern clock with chimes, brass case, height twenty inches. In the Robert Hoe collection, New York.

Sanderson, Robert. London. Clockmakers' Company. 1703-45.

Sands, John. London. 1795.

Sangster, John T. London. Clockmakers' Company. 1811-40. Bradwell, Essex.

Sargeant, Nathaniel. London. Clockmakers' Company. 1769. Warden 1780, 81, 82, 87. Master 1783. A splendid long-case clock by him. in finely carved mahogany case, at Old Town, Me. Been in the family since 1769.

Sargeant, Robert. London. Clockmakers' Company. 1720.

Sartori, J. G. Kronach. 1794.

Saunders, Daniel. London. 1630. Clockmaker.

Saunders, John. London. Clockmakers' Company. 1721.

Saunders, Joshua. London. 1770.

Saunders, Samuel. London. Clockmakers' Company. 1730.

Saudter, J. Salzburg. 1650.

Saurer, L. Augsburg. 1758.

Savage, George. London and Montreal. He invented the 2-pin lever escapement; was living in London in 1810, but came later to Montreal, where he continued his business.

Savage, Thomas. London. 1680.

Savage, Thomas. London. Clockmakers' Company. 1804-40. Red Lion Street, Clerkenwell.

Saville, John. London. Clockmakers' Company. 1656.

Saville, John. London. Clockmakers' Company. 1678.

Savell, William J. London. Clockmakers' Company. 1825. London Bridge.

Savory, Andrew. London. Clockmakers' Company. 1676.

Savory, Farrand & Co. London. 1790-1800. Cheapside.

Sawyer, Paul. London. Clockmakers' Company. 1718.

Say, Nehemiah. London. Clockmakers' Company. 1656.

Scafe, William. London. 1721-49. Clockmakers' Company. Warden 1746, 47, 48. Master 1749.

Schatch, J. E. Prague. 1650.

Schatch, B. E. Thun. 1600.

Schardus, Thomas. London. 1715.

Scherer, J. C., à Genève. Late eighteenth century.

Schlott, Hans. Augsburg. 1581.

Schnier, H. Speir. 1583.

Schmidt, J. Hamburg. 1740.

Schneider, J. Augsburg. 1625.

Schutt, Jasper. London. Clockmakers' Company. 1648.

Schwilgue, Charles. Strasburg. 1838.

Science, John. London. Clockmakers' Company. 1724.

Scott, Andrew. Edinburgh. 1764. Many makers by this name were to be found in various parts of Scotland from 1764 to 1850.

Scott, Daniel. London. Clockmakers' Company. 1697.

Scott, James. London. 1766.

Scott, John. London. 1781.

Scott, John. Sandgate. 1776-90.

Scott, William. London. 1790. Dartmouth Street.

Seaborne, James. London. 1645.

Seagrave, Matthew. London. Clockmakers' Company. 1730.

Seddon, James. London. Clockmakers' Company. 1662.

Seddon, Humphrey. London. 1730.

Seddon, Nathaniel. London. Clockmakers' Company. 1691.

Sedwell, Edward. London. Clockmakers' Company. 1664.

Seignor, Robert. London. 1673-82. Maker of fine watches and clocks.

Sellars, John. London. 1692. Was chosen Master in 1691, but declined on account of health.

Selwood, John. London. Clockmakers' Company. 1641.

Selwood, William. London. Clockmakers' Company. 1633.

Senebier, A., à Genève. 1630.

Senez, G. Rouen. 1660. "Horloger du Roi."

Sens, William. London. Clockmakers' Company. 1711.

Sergeant, Benjamin. London. 1758.

Sergeant, Nathaniel. London. Clockmakers' Company. Admitted 1768. Master 1783.

Sermand, F. London. 1640.

Serré, ——. London. About 1776. Maker of a fine repeating watch set with diamonds, Tzar's collection.

Servière, Nicholas Grollier de. Lyons. 1596-1689.

Settelier, ——. Paris.

Sewell, George. London. 1790.

Sewell, William, Jr. London. Clockmakers' Company. 1825-40. Upper Thames Street.

Seymore, John. London. Clockmakers' Company. 1710.

Seymour, John. London. 1744.

Sharp, John. London. Clockmakers' Company. Warden 1827, 28, 29, 30, 31, 32. Master 1833, 35.

Sharp, John. London.

Clockmakers' Company. 1811-25. London Bridge.

Sharp & Williams. London. 1790.

Sharpe, William. London. Clockmakers' Company. 1681.

Shaw, Anna. London. 1733. Apprenticed to Isaac Loddington and wife for seven years.

Shaw, John. London. 1682. Clockmakers' Company. Warden 1709, 10, 11. Master 1712.

Shaw, Joseph Kember. London. 1777.

Shaw, William. London. 1765.

Shearer, Michael. Edinburgh. 1786-1825. Another Scottish maker of wooden clocks of the wag-on-the-wall pattern. He also made musical and chiming clocks of a high class.

Sheate, William. London. 1790.

Shelley, Joseph. London. Clockmakers' Company. 1717.

Shelly & King. London. 1775.

Shelton, John. St. Helena. 1762.

Shelton, John. London. Clockmakers' Company. 1766.

Shelton, John M. London. 1750. Maker of long-case carved and inlaid clock.

Shelton, Samson. London. 1630-50. Clockmakers' Company. Charter member. Was Junior Warden in 1632 and Master in 1639.

Shelton, Thomas. London. 1636-51. Chosen Clerk of Clockmakers' Company.

Shepherd, Thomas. London. 1630. Clockmaker.

Shepley, ——. Manchester. 1780. Maker of tall-case clocks playing seven tunes on fifteen bells.

Sheppard, Thomas. London. Clockmakers' Company. 1632.

Sherwood, J. London. 1750-75.

Sherwood, William. London. Clockmakers' Company. 1695-1720. Apprenticed to James Delander.

Sherwood, William. London. Clockmakers' Company. 1720. Warden 1737, 38, 39. Master 1740.

Shilton, John. London. Clockmakers' Company. 1720.

Shipman, John. Newcastle. 1776-90.

Shirley, James. London. Clockmakers' Company. 1720.

Shirley, John. London. Clockmakers' Company. 1724. He agreed to pay £30 to the Clockmakers' Company to translate him to the Vintners' Company.

Schmidt, ——. Geneva. London. 1630.

Short, James. London. 1760.

Short, Joshua. London. Clockmakers' Company. 1665.

Shrapnell, James. London. 1760-90.

Shuckburgh, Charles. London. Clockmakers' Company. 1719.

Shuttleworth, Henry. London. Clockmakers' Company. 1669.

Sidey, Benjamin. London. Admitted to Clockmakers' Company 1730. Died 1790. Warden 1758, 60, 88. Master 1761, 89. Put on livery 1766. Bequeathed to Company £300. An active member in affairs of company.

Sidey, Benjamin, Jr. London. 1800.

Sidley, Benjamin. London. Clockmakers' Company. 1710.

Sidley, John. London. Clockmakers' Company. 1701.

Siegrist, John et Cie. Chaux-de-Fonds. Early nineteenth century. Watches.

Silver, Frederick. London. Clockmakers' Company. 1811-40. Aldersgate Street.

Silver, Joseph. London. 1793. Hatton Garden.

Simcox, Samuel. London. Clockmakers' Company. 1708.

Simcox, William. London. Clockmakers' Company. 1682.

Simkins, Thomas. London. Clockmakers' Company. 1710.

Simms, George. London. 1740.

Simonds, Thomas. London. Clockmakers' Company. 1661.

Simpson, John. London. Clockmakers' Company. 1709.

Simpson, John. London. Clockmakers' Company. 1723.

Simpson, Robert. London. 1835.

Simpson, William Ellison. London. Clockmakers' Company. 1781.

Sinclare, ——. Dublin. 1780.

Sinderby, Francis H. London. Clockmakers' Company. 1800-40. Butcher Hall Lane.

Sindry, Lawrence. London. Clockmakers' Company. 1661.

Singleton, ——. Paris. Eighteenth century.

Sisson, ——. London. 1750. On a watch in the Bernal collection.

Skelton, George. Edinburgh. 1773-1834. He was a Scottish clock and watch maker, well known for his skill in repairing as well as making watches.

Skinner, Matthew. London. 1713-46. Clockmakers' Company. Apprenticed to Francis Hill. Freeman 1713. Assistant 1743. Master 1746.

Skinner, William. London. Clockmakers' Company. 1822. West Street, Walworth.

Slack, Joseph. London. Clockmakers' Company. 1723.

Sloagh, William. London. Clockmakers' Company. 1687.

Sloper, Jeremiah. London. Clockmakers' Company. 1726.

Sly, Robert. London. Clockmakers' Company. 1720.

Small, William. London. 1770.

Smallwood, John. Litchfield, England. About 1700. Fine clock with oak case.

Smalley, Thomas. London. Clockmakers' Company. 1687.

Smart, John. London. Clockmakers' Company. 1682.

Smart, Orpheus. London. 1750.

Smeaton, John. York. 1680.

Smit, Hermanus. Amsterdam. About 1740. Long-case Dutch clock, mahogany with gilt bronze mountings, engraved gilt and silver dial, 9 ft. 8 in. tall. Robert Hoe collection, New York.

Smith, David. London. Clockmakers' Company. 1662.

Smith, E. Newcastle. 1811.

Smith, Edward. Dublin. About 1810. Mahogany long-case clock, with silvered dial, and barometer and thermometer by W. Yeates attached. Robert Hoe collection, New York.

Smith, George. London. Clockmakers' Company. 1632.

Smith, George. London. 1785.

Smith, George. London. 1820. Charlotte Terrace, New Cut.

Smith, Gerson. London. 1630.

Smith, Henry. London. Clockmakers' Company. 1703.

Smith, Jabez. London. 1790. Fenchurch Street.

Smith, James. London. 1781. Maker to George III. Eight-day bracket clock with chimes.

Smith, John. London. 1656. He was fined for non-attendance and for putting another's name upon a watch.

Smith, John. London. Clockmakers' Company. 1631-50. One of the first assistants.

Smith, John. London. Clockmakers' Company. 1654.

Smith, John. London. Clockmakers' Company. 1656.

Smith, John. London. Clockmakers' Company. 1674.

Smith, John. London. Clockmakers' Company. 1703. Maker of a clock which was put in the tower of Westminster Abbey in 1730, when it was built by Sir Christopher Wren.

Smith, J., & Sons. London. 1810. Built on the old site of Colonel Francis Magniac's clock factory in Clerkenwell.

Smith, John. Fife. 1770-1809. A self-taught and inventive clockmaker, from the obscure fishing village of Pittenweem. He made very elaborate long-case and table clocks, musical and chiming and with mechanical figures.

Smith, Joseph. Bristol. 1760.

Smith; Morris. London. Clockmakers' Company. 1702.

Smith, Obadiah. London. Clockmakers' Company. 1725.

Smith, Philip. London. 1667. Mathematical instrument maker. Admitted to Clockmakers' Company.

Smith, Robert. London. Clockmakers' Company. 1648. Warden 1650, 51. Died 1654.

Smith, Robert. London. Clockmakers' Company. 1668.

Smith, Robert. Dunstable. 1680-1700. Maker of fine long-case clocks of English walnut, inlaid.

Smith, Robert. London. Clockmakers' Company. 1695.

Smith, Thomas. London. Clockmakers' Company. 1700.

Smith, Thomas. London. Clockmakers' Company. 1718.

Smith, Tudor. London. Clockmakers' Company. 1717.

Smith, Walter. London. Clockmakers' Company. 1641.

Smither, William. London. Clockmakers' Company. 1823-40. Fish Street Hill.

Smoult, Thomas. Newcastle. 1790.

Snag, ——. London. 1689. "Lumbard St."

Snatt, Jno. Asford. 1650. A brass sheepshead clock by him owned by Mr. Henry FitzWaters, Salem, Mass.

Snell, George. London. Clockmakers' Company. 1688.

Snelling, James. London. Clockmakers' Company. 1712. Warden 1733, 34, 35. Master 1736.

Snelling, Thomas. London. Clockmakers' Company. 1680.

Snelling, Henry. London. 1770.

Solomon, E. Margate. 1750.

Soley, J. London. 1700.

Solomon, Henry. London. 1776.

Somersal, John. London. Clockmakers' Company. 1708.

Somersall, George. London. 1750-75.

Somersall, Richard. London. 1787-96. Clockmakers' Company.

Soret, Jacques. Paris. 1780. Maker of a watch for Louis XIV.

Soret, Jean Robert. Geneva. 1812.

South, Joseph. London. Clockmakers' Company. 1709.

Southworth, John. London. Clockmakers' Company. 1689.

Southworth, Peter. London. Clockmakers' Company. 1664.

Sowter, John. London. Clockmakers' Company. 1683.

Spaldin, W. Liverpool. 1790.

Sparkes, Nicholas. London. Clockmakers' Company. 1659. Presented a piece of plate to Clockmakers' Company.

Speakman, Edward. London.

1691. Maker of a fine tall clock, square dial, bull's eye, marquetry.

Speakman, John, Jr. London. Clockmakers' Company. 1706.

Speakman, Thomas. London. Clockmakers' Company. 1685.

Speakman, William. London. Clockmakers' Company. 1690. Warden 1698, 99, 1700. Master 1701.

Speidell, Francis. London. 1699-1719. Clerk of Clockmakers' Company. He embezzled some of the Company's funds, but the matter was passed over and he held office until 1719.

Spence, John. 1670. Maker of a silver-gilt alarm repeater-watch.

Spencer, Arthur. London Clockmakers' Company. 1732.

Spencer, Thomas. London. Clockmakers' Company. 1682. Fined for taking too many apprentices.

Spencer & Perkins. London. 1781-90.

Spicht, F. Y. Amsterdam. 1715.

Spink & Son. London. 1775-1840.

Spittle, Richard. London. Clockmakers' Company. 1699-1720. Maker of tall clocks in inlaid walnut cases.

Spurrier, John. London. Clockmakers' Company. 1684.

Stables, Thomas. London. Clockmakers' Company. 1685.

Stacey, John. London. Clockmakers' Company. 1683.

Stacey, William. London. 1760.

Stacey, William. London. Clockmakers' Company. 1786. Fleet Street.

Stafford, John. London. 1708. Clockmakers' Company. Warden 1738, 39, 40. Master 1741. In 1729 he petitioned against stamping watch dials, since it would ruin the business of watch engraving.

Stamper, Francis. London. Clockmakers' Company. 1682. "At ye Golden Ball in Lumbard Streete."

Stanbury, Henry. London. Clockmakers' Company. 1709.

Standish, William. London. Clockmakers' Company. 1668.

Standring, ——. Bolton, Eng. 1750. Fine clock in Chippendale case, eight-day, long case, strikes. Engraved on arch of dial: "Time flies, pursue it man, For why? Thy days are but a span." At Rhode Island School of Design.

Stanes, Jeffrey. London. Clockmakers' Company. 1686.

Stanley, John. London. Clockmakers' Company. 1732.

Stanton, Edward. London. Clockmakers' Company. 1662.

Warden 1693, 94, 95. Master 1696.

Stanton, John. London. Clockmakers' Company. 1692.

Stanton, Joseph. London. Clockmakers' Company. 1703.

Stanton, Samuel. London. Clockmakers' Company. 1714.

Stapleton, Thomas. London. Clockmakers' Company. 1694.

Staptoe, William. London. Clockmakers' Company. 1703.

Starey, John. London. Clockmakers' Company. 1785-96. Freeman 1785. Livery 1787.

Starkey, Joseph. London. Clockmakers' Company. 1706.

Starr, Robert. London. 1667.

Staunton, Edward. London. Clockmakers' Company. 1662.

Stayne, Thomas. London. Clockmakers' Company. 1654.

Steele, James. London. Clockmakers' Company. 1801-40.

Stegar, John. London. Clockmakers' Company. 1699.

Stennett, William. London. Clockmakers' Company. 1822-40. Lower Thames Street.

Stephens, Daniel. London. 1680-97. Beadle of Clockmakers' Company.

Stephens, Francis. London. Clockmakers' Company. 1632.

Stephens, Joseph. London. Clockmakers' Company. 1721. Master 1756.

Stephens, Joseph, 2. London. Clockmakers' Company. 1760. Warden 1773, 74, 75. Master 1776. Put on livery 1766.

Stephenson, Adam. London. 1785.

Stephenson, Thomas Samuel. London. Clockmakers' Company. 1811-40. Hoxton.

Stepstow, William. London. Clockmakers' Company. 1703.

Sterens, S. London. 1790.

Stevens, Daniel. London. Clockmakers' Company. 1661.

Stevens, George. London. Clockmakers' Company. 1673.

Stevens, Joseph. London. Clockmakers' Company. 1721.

Stevens, Joseph. London. Clockmakers' Company. 1745. Master 1752-56. Eight-day clock in case of black and gold lacquer.

Stevens, Joseph. London. Clockmakers' Company. 1786. Whitechapel.

Stevens, Nathaniel. London. Clockmakers' Company. 1712.

Stevens, Richard. London. Clockmakers' Company. 1715.

Stevens, Samuel. London. 1682. Fined for taking too many apprentices.

Stevens, Samuel. London. Clockmakers' Company. 1706.

Stevens, Thomas. London. Clockmakers' Company. 1700.

Stevenson, Adam. London. 1787.

Stevenson, W. London. 1740. Maker of bracket clocks.

Stibbs, C. London. 1750.

Stiles, John. London. Clockmakers' Company. 1704.

Stiles, Nathaniel. London. Clockmakers' Company. 1725.

Stiles, Richard. London. Clockmakers' Company. 1770-90.

Still, Francis. London. Clockmakers' Company. 1699.

Stirling, John. London. 1790. Abchurch Lane.

Stock, Jabez. London. 1700. Whitechapel. Maker of clocks with fine lacquer cases.

Stogdon, Mathew. London. Clockmakers' Company. 1717-70. He was the inventor of the half-quarter repeating mechanism.

Stokes, John. London. 1780. Maker of tall clock, mahogany case, engraved dial, chiming on eight bells and four gongs.

Stone, Andrew. London. Clockmakers' Company. 1699.

Stone, Robert. London. Clockmakers' Company. 1710.

Stone, William. London. Clockmakers' Company. 1700.

Stones, Thomas, alias Scoles. London. Clockmakers' Company. 1692.

Stones, Thomas. London. Clockmakers' Company. 1692. Warden 1727, 28, 29. Master 1730.

Storer, Robert. London. 1743-68.

Storer, Robert (2), & Son. Clockmakers' Company. 1692. Warden 1727, 28, 29. Master London. 1788-1820.

Storer, Robert, 3. London. Clockmakers' Company. 1811-35. Berkeley Street, Clerkenwell.

Storer, Walter. London. 1822-40.

Storey, James. London. Clockmakers' Company. 1703.

Storr, Marmaduke. London. 1738. "At the foot of London Bridge." Maker of a clock which belonged to John Hancock.

Storr, William. London. Clockmakers' Company. 1765-90.

Strachan, Andrew. London. Clockmakers' Company. 1691.

Strachan, Charles. London. Clockmakers' Company. 1811-38. Cornhill.

Strahan, Andrew. Newcastle. 1782-90.

Stratford, George. London. Clockmakers' Company. 1704.

Stratton, Richard. London. Clockmakers' Company. 1720.

Strech, W. Bristol. 1750.

Street, Richard. London. Clockmakers' Company. 1680-1715. Admitted to Clockmakers' Company 1687. Junior Warden 1715.

Strelly, Francis. London. Clockmakers' Company. 1665.

Stretton, Sarah. London. Clockmakers' Company. 1716.

Strigel, George Philip. London. Clockmakers' Company. 1700-81.

Strongfellow, John. London. Clockmakers' Company. 1691.

Stubbs, Gabriell. London. 1675. A maker of small clocks.

Stuk, William. London. 1781.

Sturgis, Edmund. Dublin. 1729.

Sturkeys, ——. London. 1750.

Style, Nathaniel. London. 1725. Clockmakers' Company. Warden 1748, 49, 50. Master 1751. Put on livery 1766. Gave £10 to the Clockmakers' Company in 1770 to help in the purchase of bank stock.

Style, Richard. London. 1764. Clockmakers' Company. Warden 1787, 88, 89. Master 1790. Put on livery 1766.

Sudbury, John. London. Clockmakers' Company. 1686.

Sully, Henry. London and Paris. Born 1680, died 1728. He was apprenticed to Charles Gretton, was a distinguished horologist, died in Paris 1728. He lived the greater part of his life in Paris.

Sumart, Orpheus. London. 1750.

Sumner, William. London. Clockmakers' Company. 1662.

Sutor, William. Edinburgh. 1704-15.

Sutton, Charles. London. 1698.

Sutton, Isaac. London. Clockmakers' Company. 1662.

Sutton, James. London. Clockmakers' Company. 1828-40. Wood Street.

Swaan, Pieter. Amsterdam. 1690.

Swanson, Robert. London. Clockmakers' Company. 1730.

Swanson, William. London. 1790.

Sweley, John. London. Clockmakers' Company. 1671.

Swell, G. London. 1688.

Swindells, Jasper. London. 1813. "Salmon and Ball St. Bunhill Row, in the Parish of St. Luke's Old street."

Sylvester, John. London. Clockmakers' Company. 1693.

Symonds, Thomas. London. 1755-85.

T

Tailour, Edward. London. 1629. A member of the Blacksmiths' Company.

Tailor, John. London. 1629.

Tallis, Aaron. London. Clockmakers' Company. 1721.

Tanner, Joseph. London. Clockmakers' Company. 1682.

Tarts, J. London. A name used on many watches and supposed to be fictitious. One

In the collection of Mrs. George A. Hearn has date letter, 1774.

Taylor, Abraham. London. Clockmakers' Company. 1668.

Taylor, Benjamin. London. 1796. Clockmakers' Company.

Taylor, Charles. London. Clockmakers' Company. 1723.

Taylor, Charles. Bristol. 1828.

Taylor, Elliott. London. Clockmakers' Company. 1800-40. Holborn.

Taylor, Edward. London. Clockmakers' Company. 1811. Leadenhall Street.

Taylor, George. Wolverhampton. 1851. Maker of self-correcting day clocks.

Taylor, George. London. 1715. Took as apprentice Rebeckah Fisher, who was bound to him and his wife for seven years.

Taylor, Henry. London. 1765.

Taylor, James. Strichen. 1799-1846. A Scottish maker who put out many excellent tall-case clocks.

Taylor, James. London. Clockmakers' Company. 1811. Sweeting's Alley, Cornhill.

Taylor, Jasper. London. Clockmakers' Company. 1694. Signed his watches "Jasper Taylor in Holbourn."

Taylor, Jasper, 2. London. Clockmakers' Company. 1729. Warden 1751, 52, 53. Master 1754. Left £10 to the Clockmakers' Company in 1770.

Taylor, John. London. Clockmakers' Company. 1687.

Taylor, John. London. Clockmakers' Company. 1702.

Taylor, Richard. London. Clockmakers' Company. 1655.

Taylor, Richard. London. Clockmakers' Company. 1724.

Taylor, Richard. London. Clockmakers' Company. 1728.

Taylor, Samuel. London. Clockmakers' Company. 1788. Warden 1804, 05, 06. Master 1807.

Taylor, Samuel. London. Clockmakers' Company. 1830. Holborn.

Taylor, Thomas. London. 1646-95. Warden 1662, 63, 65, 66, 67. Master 1668, 69, and 1687. Admitted to Clockmakers' Company 1646. Died 1695.

Taylor, Thomas, in Holbourn. London. 1685. Member of Clockmakers' Company. Maker of a repeating watch in Bernal collection.

Taylor, Thomas. London. Admitted to Clockmakers' Company 1703. "In Holbourne." Warden 1707, 08, 09. Master 1710.

Taylor, William. London. Clockmakers' Company. 1682.

Tebball, Benjamin. London. Clockmakers' Company. 1683.

Tebbatt, Benoni. London.

1688. Made watches; one was seized as being of "coarse and unwarrantable Gold."

Temple, Thomas. London. Clockmakers' Company. 1720.

Templer, Charles. London. Clockmakers' Company. 1673.

Tenant, Leonard. London. 1617. Made a new clock and chimes for St. Margaret's, Westminster, at this date.

Tennant, Thomas. London. Clockmakers' Company. 1668.

Terold, Henry. Ipswich, Eng. Seventeenth century.

Terrot, Phe., à Genève. 1725.

Terrier, James. London. Clockmakers' Company. 1694.

Terrier, Mary. London. Clockmakers' Company. 1713.

Terrier, Thomas. London. Clockmakers' Company. 1694.

Tertre, Chas. Du. Paris. Louis XVI. clock, ormolu case, brought in 1902 $105.

Thatcher, George. Cranbrook. 1760.

Thacke, Philip. London. 1685-1700. Maker of tall clocks in inlaid walnut cases.

Thiout l'Aine. Paris. 1741. Made odd and curious repeating watches and clocks.

Thirmire, ——. Paris. 1804. Maker of gilt Empire clocks.

Thomas, John. London. 1743.

Thomas, John. Caerleon. 1817. Made a clock which ran three hundred and eighty-four days with one winding.

Morris, Thomas. Wales. 1775.

Thomequez, Abraham. London. Clockmakers' Company. 1675.

Thomire et Cie. Paris. 1820. Maker of a clock in Buckingham Palace.

Thompson, John. London. Clockmakers' Company. 1662.

Thompson, John. London. Clockmakers' Company. 1720.

Thompson, John. London. 1781.

Thompson, Isaac. London. Clockmakers' Company. 1699.

Thompson, Robert. London. Clockmakers' Company. 1681.

Thompson, Troughton. London. Clockmakers' Company. 1721.

Thompson, William. London. Clockmakers' Company. 1708.

Thompson, William. Chester. 1743.

Thomson, Alexander. Edinburgh. 1736. One of the earliest of many Scottish makers of this name, most of whom were settled in Edinburgh, Andrew Thomson of Glasgow being in business as late as 1841.

Thornton, Henry. London. Clockmakers' Company. 1699.

Thornton, Henry. London. 1729. Maker of very choice repoussé watches in Tzar's collection. He had consid-

erable trade in Russia, and one of his long-case chiming clocks is in the Winter Palace, St. Petersburg.

Thornton, John. London. Clockmakers' Company. 1721.

Thorogood, John. London. Clockmakers' Company. 1660.

Thorowgood, Frederick. London. Clockmakers' Company. 1811. Wood Street, Cheapside.

Thorowgood, Luke. London. 1768. Apprentice of Thomas Hunter.

Thorowgood, William. London. Clockmakers' Company. 1660.

Thorowgood, William. London. Clockmakers' Company. 1821. Fan Street, Aldersgate Street.

Thorpe, Thomas. London. Clockmakers' Company. 1821. Red Lion Street, Clerkenwell.

Threlkeld in the Strand. 1709.

Thuret, ——. Paris. 1668.

Thwayts, Aynesworth, of London. 1740-80. Built the clock which is in the tower of St. Michael's Church, Charleston, S. C. It was sent over in 1764 and was described by the maker as "a strong 30 hour clock to show the hour four ways, to strike the hour on the largest bell, & the quarters on four bells as the Royal Exchange, London." Up to 1849 there were no minute hands. In that year, with the consent of the vestry, the City Council added them.

Thwaites, John. London. 1780 - 1820. Clockmakers' Company. Warden 1810, 11, 12, 13. Master 1815. Made the clock in the tower of St. Paul's Chapel, New York City, in 1798.

Thwaites & Reed. London. 1817-40.

Thylet, ——. Maker of a watch and chatelaine which belonged to Queen Anne.

Tilly, Joseph. London. Clockmakers' Company. 1703.

Tipping, George. London. Clockmakers' Company. 1674.

Tobias, Morris. London. 1800. Maker of curious clock in Gothic design with mechanical figures and musical movement.

Tobias, Morris & Co. London. 1830. "Maker to the Admiralty."

Tobias, Morris J. Liverpool. 1840. Maker of very fine gold watch with engraved case in Proctor collection.

Tolby, Charles. London. Clockmakers' Company. 1720.

Tolley, Charles. London. Clockmakers' Company. 1683.

Tolley, Charles. London. 1713-30. Beadle of Clockmakers' Company.

Tollison, John. London. Clockmakers' Company. 1714.

Tomlinson, Thomas. London. Clockmakers' Company. 1647.

Tomlinson, William. London. 1699-1733. Admitted to Clockmakers' Company 1699. Assistant 1726. Master 1733.

Tomlyns, Nicholas. London. Clockmakers' Company. 1647-95.

Tompion, Thomas. London. Clockmakers' Company. Warden 1700, 01, 02. Master 1703. Called "Father of English Clockmakers." Admitted 1671, died 1713.

Tompion, Thomas, Jr. 1702.

Tompion, Thomas, & Edward Banger. Thomas Tompion 2, son of Thomas Tompion. Apprenticed to Charles Kemp. Freeman 1702. See *Edward Banger.*

Tompion & Dent. London. 1687.

Torado, Francis. "Gray's In." 1633-60. Admitted a brother Clockmakers' Company 1633.

Torin, Daniel. London. 1766. Hoxton Square. Mahogany case tall clock.

Torriana, ——. London. 1661. Was an engineer and mathematician as well as clockmaker.

Toshach, Patrick. Perth. 1785. He was a maker of high-class musical and chamber clocks.

Tothaker, William. London. Clockmakers' Company. 1703.

Toulmin, Samuel. London. 1759-70. He was a "Citizen and Joiner" but by trade a clockmaker.

Tounsend, John. London. 1632. Got in trouble with the Clockmakers' Company.

Tounsend, Samuel. London. Clockmakers' Company. 1702.

Toutin, Henry. Blois. 1630-40.

Toutin, Jean. Chateau Surr. 1630. One of those who early applied enamel to watch-cases.

Toweson, F. London. 1750.

Tracey, S. London. 1700.

Tracy, Stephen. Rotterdam. 1700? Maker of a round gold watch enamelled by Heraud.

Tregent, James. London. 1758-81.

Tregent, James. London. Clockmakers' Company. 1770-1800. "At this date, 1775, he lived at 26 Cranbone Street, Leicester Sqr."

Trent, William. London. 1760. Maker of silver double-case watch, Proctor collection.

Trigg, Thomas. London. Clockmakers' Company. 1701.

Triggs, Thomas. London Clockmakers' Company. 1708.

Trippett, Robert. London. Clockmakers' Company. 1700.

Trippett, William. London. Clockmakers' Company. 1706.

Tritschler & Co. London. 1835-40.

Troughton, Edward. London. 1780-1835. Inventor of machine for wheel-cutting.

Trowe, Gilbert. London. Clockmakers' Company. 1721.

Trubshawe. London. Clockmakers' Company. 1686. Warden 1714.

Trury à Genève. Early nineteenth century. Maker of fine watches.

Tunnell, John. London. Clockmakers' Company. 1807. Fleet Street. In 1840 in Lynn, Norfolk.

Tupman, George. London. 1790-1830. Made chiming clocks.

Turner, Joseph. London. Clockmakers' Company. 1717.

Turveen, Jarrett. London. Clockmakers' Company. 1688.

Tutet, Edward. London. 1766-90. Clockmakers' Company. Warden in 1783, 84, 85. Master 1786. In business in 1781, 10 Fenchurch Street.

Tutet, Edward, 2. London. Clockmakers' Company. 1796-1811. Pig's-Key, Bridewell.

Tuttell, Thomas. London. Clockmakers' Company. 1695.

Twhing, James. London. Clockmakers' Company. 1688.

Twyford, Robert. London. Clockmakers' Company. 1781.

Tyhusen, Dirk. Wes Zaandam. About 1710. Friesland clock, polished and etched iron dial. Open lantern-shaped case with brass columns. Pendulum a man on horseback. In the Robert Hoe collection, New York, 1911.

Tyrer, Thomas. London. 1782. He is a claimant for having invented the duplex escapement.

U

Underhill, Cave. London. Clockmakers' Company. 1655.

Upjohn, Francis. London. Clockmakers' Company. 1787.

Upjohn, James, & Co. London. 1781.

Upjohn, Thomas. Exeter. 1740. Maker of clock with case of raised green lacquer.

Upjohn, William. Exeter. 1741. Maker of fine long-case clocks.

Underwood, Robert. London. 1781.

Ursin, Nicholas. London. 1556-90. Clockmaker to Queen Elizabeth.

Uytemveer, C. Rotterdam. 1705.

V

Vale, Samuel. Coventry. 1747.

Vale, William. London. 1781.

Vale, Carr & Rotherham. Coventry. 1747-80.

Valentine, Charles Frederick Danvers. London. Clockmakers' Company. 1811-29. St. James Walk, Clerkenwell.

Vallier, Jean. Lyons. Seventeenth century. Maker of watches.

Vallier, N. 1600. On a brass clock in British Museum.

Vanbroff, James. 1610. Maker of a watch engraved with scriptural subjects. Bernal collection.

Van Ceulen, P. Hague. 1750. Maker of silver double-case watch in Proctor collection.

Vander Nahl, J. Amsterdam. 1750.

Vanferment, P. London. 1760.

Van Gheele, Ghylus. 1589. Amsterdam. Maker of an oval gilt-metal watch in Bernal collection.

Van Leuwen, Simion. Amsterdam. 1630-49.

Van Pilcom, Daniel. Amsterdam. 1640. Maker of a tulip-shaped watch, Bernal collection.

Van Overklift, H., William Loon à Dordrecht. 1720.

Vasler, Andrew. London. Clockmakers' Company. 1717.

Vauche, ——. Paris. 1790. Maker of enamelled watches.

Vaughan, Edward. London. Clockmakers' Company. 1715.

Vauguion, Daniel. London. 1760. Pall Mall. Maker of a gold pair-case watch with an engraved gold dial. In the Robert Hoe collection, New York.

Vantrollier, James. London. 1630-50. Charter member of Clockmakers' Company.

Van Wagening, B. London. 1750.

Vecue, Thomas. London. Clockmakers' Company. 1632.

Verbies, Ferdinando. 1680.

Vermeilen, A. Amsterdam. 1650-1700.

Vernes à Paris. About 1790. Maker of a fine enamel gold watch encircled by pearls, in the Robert Hoe collection, New York.

Vernon, Samuel. London. Clockmakers' Company. 1649-85.

Vernon, Samuel. London. 1656. Clockmakers' Company. Warden 1678. Master 1679.

Vernon, Samuel, 2. London. Clockmakers' Company. 1685.

Vibert, J. P. Penzance. 1780. Maker of silver case watch in Proctor collection.

Vick, Henry de. Paris. 1364. Made a clock for Charles V. of France. It was on the bell of this clock that the signal was given for the massacre of St. Bartholomew.

Vick, Richard. London. 1702.

Clockmakers' Company. Warden 1726, 27, 28. Master 1729.

Viell, Charles. London. Clockmakers' Company. 1685.

Viet, Claude. London. Clockmakers' Company. 1698-1715. His daughter was bound to him as apprentice for seven years.

Viet, C. & M. London. 1698-1715.

Viet, M. London. 1720.

Vigne, James. London. Clockmakers' Company. 1781.

Vincen, William. Portsmouth. 1750.

Vincent, Peter. London. About 1750. Maker of a gold repeating watch with outer case repoussé, with inserted panels of agate. Chatelaine very elaborate, with polished agates. In the original morocco case. In the Robert Hoe collection, New York, 1911.

Vincenti, N. Paris. 1817.

Viner, Charles Edward. London. Clockmakers' Company. 1780-1840. Old Bond Street.

Vines, James. London. Clockmakers' Company. 1708.

Viother, Jacques. 1610. Watchmaker—catgut spring. Bernal collection.

Virgoe, Thomas. London. Clockmakers' Company. 1682.

Visbach, Pieter. Haag. About 1700. Maker of a Dutch marquetry clock. The dial is mounted on blue velvet, the numerals in gilt bronze. In the Robert Hoe collection, New York, 1911.

Volant, Ely. London. 1632.

"Volcker, Joannes, McF. Gandau." Long-case, mahogany clock, with chimes. Chased and engraved dial, eight chime tunes, on eighteen bells; 10 ft. high. Robert Hoe collection, New York.

Voorhelm, ——. Haarlem. 1725-50.

Vossière, Thomas. London. Clockmakers' Company. 1698.

Voughan, Edward. London. Clockmakers' Company. 1715.

Vouloire, Matthew. London. Clockmakers' Company. 1692.

Voyce, Gamaliel. London. Clockmakers' Company. 1694.

Vuicar, J. B. à Zug. Seventeenth century. Maker of watches.

Vulliamy, Benjamin Lewis. London. Clockmakers' Company 1809. Warden 1815, 16, 17, 18, 19, 20, 43, 46. Master 1821, 23, 25, 27, 47. Five times master; presented with a piece of plate, 1849. Died 1854. Was the first clockmaker in England to use a two-seconds pendulum.

Vulliamy, Justin. London. 1730. Father of Justin Theodore.

Vulliamy, Justin Theodore.

London. Warden 1820, 21, 22, 23.

Vulliamy, Benjamin. London. Made Honorary Freeman of Clockmakers' Company 1781. Father of Benjamin Lewis Vulliamy.

W

Wade, Henry. London. Clockmakers' Company. 1728.

Wagdon, Stephen. London. Clockmakers' Company. 1724.

Wagson, Solomon. Bristol. 1660.

Wainwright, John. London. Clockmakers' Company. 1679.

Wakefield, John. London. 1835-40.

Waker, Peter. London. Clockmakers' Company. 1663.

Waldoe, John. London. Clockmakers' Company. 1677.

Walford, John. London. Clockmakers' Company. 1717.

Walford, H. & Son. Oxford and Banbury. 1775.

Walkden, Thomas. London. Clockmakers' Company. 1694.

Walker, George. London. Clockmakers' Company. 1683.

Walker, James. London. Clockmakers' Company. 1632.

Walker, John. London. Clockmakers' Company. 1632.

Walker, John. London. Clockmakers' Company. 1717.

Walker, John. London. 1730. Maker of "Clock Lamps," to "be conveniently placed at the Bedside."

Walker, Jonadab. London. Clockmakers' Company. 1687.

Walker, Samuel. London. 1750. Watches by him in Tzar's collection.

Wall, John. London. Clockmakers' Company. 1812. South Street, Spitalfields.

Wallis, Henry. London. 1768. Red Lion Street.

Wallis, Jacob. London. 1780. Maker of long-case clock owned by F. A. H. Bodington, Little Compton, R. I. The case is richly decorated, brass dial.

Wallis, William. London. Clockmakers' Company. 1715.

Wallit, Richard. London. Clockmakers' Company. 1693.

Walter, Nicholas. London. 1630. Clockmaker.

Wanostrocht, Vincent. London. Clockmakers' Company. 1812. Camberwell.

Warburton, William. London. Clockmakers' Company. 1693.

Ward, Edward. London. Clockmakers' Company. 1731.

Ward, John. London. Clockmakers' Company. 1730.

Ward, John. London. Clockmakers' Company. Warden 1794, 95, 96. Master 1797.

Ward, John. London. Clockmakers' Company. 1811. Richmond Row, Plaisted, Essex.

Ward, Robert. Bloomsbury. 1790. Maker of musical clocks.

Ward, Thomas. London. 1632.

Ward, William. London. Clockmakers' Company. 1800. New Street, Covent Garden.

Ware, Robert. London. Clockmakers' Company. 1701.

Warfield, Alexander. London. Clockmakers' Company. 1692.

Warner, ——. Dartmouth, Eng. 1844. Curious clock with clock dial and hands and works of a watch in a watch case at the back to make it go. Owned in Boston, Mass.

Warner & Hinds. Dublin, Ireland. 1750-1800.

Warner, John. London. Clockmakers' Company. 1682.

Warner, John. London. Clockmakers' Company. 1696-1700.

Warren, Richard. London. Clockmakers' Company. 1668.

Warren, Thomas. London. Clockmakers' Company. 1803. Shorter's Court, Throgmorton Street.

Waters, John. London. Clockmakers' Company. 1646.

Waters, John. London. Clockmakers' Company. 1683.

Waters, Robert. London. Clockmakers' Company. 1786.

Waters, Thomas. London. Clockmakers' Company. 1731.

Watkins, John. London. Clockmakers' Company. 1820-38. Great Sutton Street.

Watson, David. Dundee. 1748. This name is not uncommon among Scottish makers, the latest one being James Watson of Aberdeen, 1846.

Watson, Edward. London. Clockmakers' Company. 1820-30. King Street, Cheapside.

Watson, George. London. Clockmakers' Company. 1822. Union Street, Southwark.

Watson, Samuel. London. 1682. Sold a clock to Charles I. for £215.

Watson, Walter. London. Clockmakers' Company. 1720.

Watson, William. London. Clockmakers' Company. 1691.

Wattes, John. London. Clockmakers' Company. 1664.

Watts, Brouncker. London. Clockmakers' Company. 1693.

Watts, James. London. Clockmakers' Company. 1720.

Watts, John. London. Clockmakers' Company. 1712.

Watts, Richard. London. Clockmakers' Company. 1680.

Waylett, John. London. Clockmakers' Company. 1795-1811. Ball Alley, Lombard Street.

Weadon, William. London. Clockmakers' Company. 1695.

Weakman, William. London. Clockmakers' Company. 1661.

Weaver, Cuthbert. London. Clockmakers' Company. 1682.

Webb, Benjamin. London. Clockmakers' Company. 1781-1810.

Webb, Thomas. London. Clockmakers' Company. 1811. Garlick Hill.

Webb, William. London. 1840-80.

Webster, George. London. Clockmakers' Company. 1703.

Webster, Henry. London. Clockmakers' Company. 1709.

Webster, John. London. Clockmakers' Company. 1695.

Webster, Richard. London. Clockmakers' Company. 1790-1840. Warden 1824, 25. Put on livery 1810.

Webster, Robert. London. 1675-1704. Admitted Clockmakers' Company 1675. Assistant 1697. Master 1704.

Webster, Samuel. London. Clockmakers' Company. 1766.

Webster, Thomas. London. Clockmakers' Company. 1709.

Webster, William. London. 1710-34. Clockmakers' Company. Freeman 1710. Assistant 1732. Warden 1734. Died in office. An apprentice of Tompion.

Webster, William, 2. London. Clockmakers' Company. Warden 1752, 53, 54. Master 1755. Put on livery 1766. Exchange Alley. Maker of superior bracket clocks.

Webster & Son. London. 1781. 11 Change Alley.

Weckerlin, Elias, à Zug. Seventeenth century. Maker of round silver alarm repeating watches.

Weeks, Charles. London. Clockmakers' Company. 1713.

Weekes, Thomas. London. Clockmakers' Company. 1654.

Weekes, Thomas. London. Clockmakers' Company. 1688. A great clockmaker.

Weelke, Christianus de. London. 1630.

Welborne, William. London. 1781-1813.

Welch, William. London. Clockmakers' Company. 1824. Skinner Street.

Welcome, John. London. Clockmakers' Company. 1632-50. The first warden.

Welcome, John. London. Clockmakers' Company. 1705.

Weldon, Samuel. London. 1774.

Weller, John. London. Clockmakers' Company. 1713.

Wellington, John. London. Clockmakers' Company. 1726.

Wells, John. London. Clockmakers' Company. 1682.

Wells, John. London. 1760.

Wells, Joseph. London. Clockmakers' Company. 1667.

Wells, Thomas. London. Clockmakers' Company. 1802.

West, Samuel. London. 1750-

67. Royal Exchange. Maker of long-case clocks.

West, William. London. Clockmakers' Company. 1697.

Westbrook, William. London. About 1740. Maker of elaborate pair-case silver watch in collection of Robert Hoe, New York.

Westcott, John. London. Clockmakers' Company. 1703.

Westoby, John. London. Clockmakers' Company. 1677.

Westwood, Richard. London. Clockmakers' Company. 1691.

Westwood, Robert. London. 1829.

Wetherell & Janaway. London. 1785-94.

Weylandt, ——. Amsterdam. 1750.

Wheatley, John. London. Clockmakers' Company. 1668.

Wheatley, William. London. Clockmakers' Company. 1698.

Wheeler, John. London. Clockmakers' Company. 1680.

Wheeler, Maurice. London. 1680.

Wheeler, Thomas. London. Clockmakers' Company. 1655.

Whichcote, Samuel. London. Clockmakers' Company. 1724. Warden 1746, 47. Master 1748. Put on livery 1766.

Whichcote, Samuel. London. Clockmakers' Company. Master 1764.

Whichester, ——. London. 1750.

White, John. London. Clockmakers' Company. 1648.

White, John. London. Clockmakers' Company. 1692.

White, Joseph. London. Clockmakers' Company. 1713.

White, Thomas. London. Clockmakers' Company. 1683.

Whiteaves, Richard. London. Clockmakers' Company. 1812-40. Fleet Street.

Whitehead, Richard. London. Clockmakers' Company. 1671.

Whitehead, Richard. London. Clockmakers' Company. 1648.

Whitehead, William. London. Clockmakers' Company. 1728.

Whitechurch, Samuel. London. 1760-80. King's Wood. A clock by this maker, in fine mahogany case, Chippendale style, was given to King Haakon of Norway, by citizens of London, on his coronation, 1906.

Whitehurst, Congleton. 1786. Died in London 1788.

Whitehurst, John. Derby. 1745. A philosophical and mechanical genius settled at Derby and made clocks. Inventor of telltale on watchman's clocks.

Whitehurst, John. Derby. 1847.

Whitfield, Edward. London. Clockmakers' Company. 1663.

Whitlaw, Searle. London. Clockmakers' Company. 1826.

Church Street, Mile End, New Town.

Whittaker, Edward. London. Clockmakers' Company. 1711.

Whittingham, William. London. 1688. Prosecuted for not having served apprenticeship for seven years.

Whittle, Thomas. London. Clockmakers' Company. 1683.

Whitway, Samuel. London. 1740.

Whitwell, Robert. London. Clockmakers' Company. 1649.

Wickes, John. London. Clockmakers' Company. 1787-1804.

Wickes, John H. London. Clockmakers' Company. 1810. Clement's Lane, Lombard Street.

Wicksteed, ——. London. 1781.

Wiesback, Pieter. Hague. 1680.

Wightman, Thomas. London. Clockmakers' Company. 1701.

Wightman, William. London, Clockmakers' Company. 1696.

Wightman, "Windmills." London. 1700. Maker of long-case walnut clock, 7 ft. 8 in. high; name on clock as above.

Wigson, William. London. Clockmakers' Company. 1792-1825. Colchester, Essex.

Wilder, J. London. Clockmakers' Company. 1790.

Wilder, Richard. London. Clockmakers' Company. 1776.

Wilders, J. London. About 1750. Maker of pair-case gold watch, the outer case repoussé and chased and engraved. In the Robert Hoe collection, New York.

Wilkes, Thomas. London. 1750.

Willeumier Frères. Framelau. 1801.

Wilkins, Robert. London. Clockmakers' Company. 1670.

Wilkins, William. London. Clockmakers' Company. 1794-1840. Holborn Hill. In 1826 at Ashstead, Surrey.

Wilkinson, John. London. 1770.

Wilkinson, William. London. Clockmakers' Company. 1718.

Willerme, Pierre. London. Clockmakers' Company. 1648.

Williams, Alexander. London. Clockmakers' Company. 1802.

Williams, ——. Bristol. About 1710. Maker of bracket clocks.

Williams, George. London. Clockmakers' Company. 1813. Monkwell Street.

Williams, John. London. 1770. Old Bond Street.

Williams, John. London. Clockmakers' Company. 1815. Joiner's Street, Tooley Street.

Williams, Joseph. Ireland. Clockmakers' Company. 1685. A great clockmaker.

Williamson, Christopher W. London. 1840-42.

Williamson, John. London. Clockmakers' Company. 1682. A great clockmaker.

Williamson, Joseph. London. Clockmakers' Company. Warden 1721, 22, 23. Master 1724. Died in office.

Williamson, Ralph. London. Clockmakers' Company. 1706.

Williamson, Robert. London. Clockmakers' Company. 1766. Warden 1695, 96, 97. Master 1698.

Williamson, Thomas. London. Clockmakers' Company. 1668.

Williamson, Thomas. London. 1684.

Williamson, William. London. Clockmakers' Company. 1664.

Willin, William. London. Clockmakers' Company. 1811. St. John's Street, Smithfield.

Willmot, Stephen. London. Clockmakers' Company. 1674.

Willmot, Thomas. London. Clockmakers' Company. 1715.

Willoughby, John. London. Clockmakers' Company. 1686.

Willow, John. 1632. Clockmakers' Company. Warden 1632, 34. Master, 1635.

Willshire, James. London. 1781. 19 High Holborn.

Willson, George. London. Clockmakers' Company. 1692.

Willson, James. London. Clockmakers' Company. 1723.

Willson, John. London. Clockmakers' Company. 1714.

Willson, Thomas. London. Clockmakers' Company. 1659.

Willson, William. London. Clockmakers' Company. 1693.

Wilmot, George. London. Clockmakers' Company. 1670.

Wilson, Alexander. London. Clockmakers' Company. 1781.

Wilson, George. London. Clockmakers' Company. 1730.

Wilson, James. London. 1781-94.

Wilson, James. London. Clockmakers' Company. 1802.

Wilson, John. Edinburgh. 1708. There were half a dozen clockmakers of this name in various parts of Scotland, the latest being T. H. Wilson, Edinburgh, 1850.

Wilter, John. London. 1760-80. Maker of a silver watch with enamel case. A steel fob shows Wedgewood pendants. In the collection of Robert Hoe, New York.

Wilton, Clay. London. Clockmakers' Company. 1697.

Winch, Amos. London. Clockmakers' Company. 1677.

Windmills, Joseph. London. Clockmakers' Company. 1660. Warden 1699, 1700, 1701. Master 1702. Admitted 1671 and a famous maker. Celebrated maker of long-case clocks.

Windmills, Thomas. London. 1695-1718. Served as master 1718.

Windmills, J. & T. London. 1710. Made fine clocks in their shop in Tower Street for twenty years.

Windon, Daniel. London. Clockmakers' Company. 1718.

Winerow, William. London. Clockmakers' Company. 1718.

Winkles, J. London. 1750.

Winne, Henry. London. 1682.

Winnock, Daniel. London. Clockmakers' Company. 1707.

Winnock, Joshua. London. Clockmakers' Company. 1672.

Winsmore, John. London. Clockmakers' Company. 1712.

Wintmill, E. London. 1744.

Winterhalter, J. London. 1840.

Wirrall, Copley. London. Clockmakers' Company. 1648.

Wise, John. London. 1669-1700. Maker of eight-day brass dial clocks in marquetry case.

Wise, John. London. Clockmakers' Company. 1683.

Wise, John. London. Clockmakers' Company. 1710.

Wise, Joseph. London. Clockmakers' Company. 1687.

Wise, Luke. Reading. 1680.

Wise, Luke. London. Clockmakers' Company. 1694.

Wise, Mark. London. Clockmakers' Company. 1719.

Wise, Matthew. London. 1750.

Wise, Peter. London. Clockmakers' Company. 1693. Warden 1724, 25. Master 1725.

Wise, Richard. London. Clockmakers' Company. 1679.

Wise, Robert. London. Clockmakers' Company. 1694.

Wise, Thomas. London. Clockmakers' Company. 1686.

Wiseman, John. London. Clockmakers' Company. 1647.

Wiss, G. Geneva. 1740.

Wiss, Les Frères, à Genève. Late eighteenth century. Makers of repeating watches enamelled and jewelled.

Wither, John. London. Clockmakers' Company. 1699.

Witte, Samuel. London. Clockmakers' Company. 1660.

Willit, James. London. 1750.

Wolf, C. Paris. Seventeenth century. Maker of a watch in the Bernal collection.

Wolf, J. Vienna. 1700.

Wolfreston, James. London. 1690.

Wolverstone, Benjamin. London. 1656.

Wolverston, James. London. Clockmakers' Company. 1677.

Wolverston, James. London. Clockmakers' Company. 1690.

Wolveston, Thomas. London. Clockmakers' Company. 1670.

Wolverstone, Thomas. London. Clockmakers' Company. 1650.

Wontner, John. London. Clockmakers' Company. 1770-1810.

Wontner, John. London. Clockmakers' Company. 1811-34. Minories.

Wontner, Joseph. London. Clockmakers' Company. 1810.

Wood, Henry. London. Clockmakers' Company. 1720.

Wood, James. London. Clockmakers' Company. 1745.

Wood, John. London. Clockmakers' Company. 1701.

Wood, John. London. 1770.

Wood, Robert. London. Clockmakers' Company. 1670.

Wood, Thomas. London. Clockmakers' Company. 1691.

Wood, Thomas. London. Clockmakers' Company. 1727.

Wood, William. London, Clockmakers' Company. 1755.

Woodall, Thomas. London. Clockmakers' Company. 1811. Birchin Lane, Cornhill.

Woodall, William. London. Clockmakers' Company. 1804.

Woodfield, C. London. 1725.

Woods, Thomas. London. Clockmakers' Company. 1713.

Worke, J. London. 1775.

Worthington, John. London. Clockmakers' Company. 1721.

Wragg, Horblon. London. 1724-40. Maker of tall clocks with fine mahogany veneered cases.

Wray, Hilton. London. Clockmakers' Company. 1770. Warden 1782, 83, 84. Master 1785.

Wrench, Charles. London. 1790.

Wrench, Charles J. London. Clockmakers' Company. 1815-34. Clement's Lane, Lombard Street.

Wresback, Pieter. Hague. 1680.

Wright, Benjamin. London. Clockmakers' Company. 1685.

Wright, Edmund. London. 1670. Maker of tall clocks, marquetry cases, square dials.

Wright, John. London. "in Covent Garden." Freeman 1661.

Wright, John. London. Clockmakers' Company. 1696.

Wright, John. London. Clockmakers' Company. 1700.

Wright, John. London. Clockmakers' Company. 1714.

Wright, John. London. 1781.

Wright, Joseph. London. Clockmakers' Company. 1671.

Wright, T. London. Clockmakers' Company. 1775-90. "Maker to the King" on bracket clock.

Wright, Thomas, "in the Poultry." Freeman Clockmakers' Company 1770.

Wright—of Stratford. 1800.

Wrightman, James. London. Clockmakers' Company. 1670.

Wrightman, Thomas. London. Clockmakers' Company. 1701.

Wrightson, Thomas. London. Clockmakers' Company.

Warden 1735, 36. Master 1737.

Wrinch, Amos. London. Clockmakers' Company. 1677.

Writs, Willem. Amsterdam. 1767.

Wrightwick, John. London. 1781.

Wyche, Daniel. London. Clockmakers' Company. 1694.

Wycke, John Prescot. Liverpool. 1800-10. Long-case mahogany clock in Chippendale style. Brass engraved dial, 9 ft. 6 in. tall. Robert Hoe collection, New York.

Wyeth, John. London. Clockmakers' Company. 1655.

Wyth, Lionel. London. 1665-72. Beadle of Clockmakers' Company.

Wynn, Henry. London. Clockmakers' Company. 1662. Warden 1686, 87, 88. Master 1690.

Wyse, John. London. Clockmakers' Company. 1683.

Wyse, John. London. Clockmakers' Company. 1669.

Wyse, John. London. Clockmakers' Company. 1710.

Wyse, Luke. London. Clockmakers' Company. 1694.

Wyse, Mark. London. Clockmakers' Company. 1719.

Y

Yardley, James. Stratford. 1770. Maker of a finely inlaid mahogany clock, long case, on bracket feet. Gill and Reigate.

Yates, George. Malden. 1746.

Yates, Samuel. London. Clockmakers' Company. 1648.

Yates, Samuel. London. Clockmakers' Company. 1685.

Yeatman, Andrew. London. 1692-1739.

Yeomans, Ralph. London. Clockmakers' Company. 1722.

Yonge, George. London. 1798-1805. Strand.

York, Thomas. London. Clockmakers' Company. 1716.

Young, Charles. London. 1815-25.

Young, Henry. London. 1779. Fleet Street.

Young, Henry. London. Clockmakers' Company. 1671.

Young, Henry. Swaffam. 1797. Maker of "Act of Parliament Clock."

Young, James. Edinburgh. 1736. This was also a name frequently found in Scottish clocks. As late as 1850 there were Youngs at work in Edinburgh and Dundee.

Young, James. London. Clockmakers' Company. 1787-1828. Curtain Road.

Young, James. Hoxton. 1796. Clockmakers' Company.

Young, John. London. Clockmakers' Company. 1778-1800.

Young, Samuel. Perth. 1781.

Young, Thomas. London. Clockmakers' Company. 1699.

Young, William. London. Clockmakers' Company. 1668.

Young, William. London. Clockmakers' Company. 1682.

Young, William. London. Clockmakers' Company. 1801-25. Abchurch Lane.

Yorston, H. London. 1750.

Z

Zachary, John. London. Clockmakers' Company. 1694.

Zech, Jacob. Prague. 1525. Invented the fusee for watches and clocks. Maker of a table clock for King of Poland, 1518. Maker of portable clocks. The Society of Antiquaries of England owns one of them.

Zoll, ——. Dantzig. 1725.

Zolling, Ferdinand. Frankfort. 1750.

LIST OF AMERICAN CLOCK MAKERS

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A

Adams, Jonas. Rochester, N. Y. 1834.

Adams, Nathan. Boston, Mass. 1796-1825.

Adams, Thomas F. Baltimore, Md. 1804.

Adams, William. Boston, Mass. 1823.

Agar, Edw. Beaver Street, New York. 1761. Had table clocks for sale.

Aikinson, Peabody. Concord, Mass. 1790. Apprenticed to Levi Hutchins.

Alden & Eldridge. Bristol, Conn. 1820.

Allebach, Jacob. Philadelphia, Pa. 1825-40.

Almy, James. New Bedford, Mass. 1836.

Allen, Jared T. Rochester, N. Y. 1844.

Alrichs, Jacob. Wilmington, Del. 1797-1857.

Alrichs, Jonas. Wilmington, Del. 1780-93.

Alrichs, Jacob & Jonas. Wilmington, Del. 1793-97.

Altmore, Marshall. Philadelphia, Pa. 1832.

Amant, Fester. Philadelphia, Pa. 1793.

Anderson, David D. Marietta, O. 1821-24.

Andrews, L. & F. Bristol, Conn. Prior to 1840.

Andrews, N. & T. Meriden, Conn. 1832.

Ansonia Brass and Clock Co. Ansonia, Conn. 1855.

Ashby, James. Boston, Mass. 1769. "Watch-maker and finisher from London, near the British Coffee House in King street, Boston, Begs leave to Inform the Publick, that he performs the different Branches of that Business in the Best and Completest Manner at the most Reasonable Rates."

Atkins & Allen. Bristol, Conn. 1820.

Atkins, Eldridge G. Bristol, Conn. 1830.

Atkins, Ireneus. Bristol, Conn. 1830. Maker of 30 day brass clocks.

Atkins, Rollin. Bristol, Conn. 1826.

Atkins & Son. Bristol, Conn. 1870.

Atkinson, M. & A. Baltimore, Md. 1804.

Austin, Isaac. Philadelphia, Pa. 1785-1805.

Avery, ——. Boston, Mass. 1726. Maker of clock in "Old North Church," Boston, from which Paul Revere arranged to have the signal lanterns hung by his friend Captain John Pulling, an ardent patriot, a vestryman of the church, and a householder in the vicinity.

Avery, John, Jr. Preston, Conn. 1732-94. "One of the members of the Avery family who had inventive genius, he was a self taught silversmith and clockmaker."

B

Babcock & Co. Philadelphia, Pa. 1832.

Bachelder, Ezra. Danvers, Mass. 1793-1840.

Bacon, John. Bristol. 1830.

Bagnall, Benjamin. Charlestown, Mass. 1712-40.

Bagnall, Benjamin. Boston, Mass. Had a shop at Cornhill, near Town House, 1770.

Bagnall, Samuel. Son of Benjamin 1st. 1740-60. He also had a shop in Boston.

Bailey & Brothers. Utica, N. Y. 1847. "At the Sign of the Big Watch."

Bailey & Ward. New York City. 1832.

Bailey, William. Philadelphia, Pa. 1832-46.

Baker, George. Providence, R. I. 1824.

Balch, Benjamin (Balch & Son). Salem, Mass. 1837.

Balch, Charles H. Newburyport, Mass. Born 1787.

Balch, Daniel. Newburyport, Mass. 1760-90.

Balch, Daniel. Son of Daniel 1st. Newburyport, Mass. 1782-1818.

Balch, James. (Balch & Son). Salem, Mass. 1837.

Balch, Moses P. Lowell, Mass. 1832.

Balch, Thomas H. Newburyport, Mass. 1790-1818.

Baldwin, Anthony. Lancaster, Pa. 1810-30.

Baldwin, George, brother of Anthony. Sadsburyville, Pa. 1808-32.

Baldwin, Jabez. Boston, Mass. 1812.

Baldwin, Jedediah. Hanover, N. H. 1780.

Baldwin, Jedediah. Rochester, N. Y. 1834.

Baldwin, S. S., & Son. New York City. 1832.

Baldwin & Jones. Boston, Mass. 1812.

Banks, Edward P. Portland, Me. 1834.

Banstein, John. Philadelphia, Pa. 1791.

Barber, James. Philadelphia, Pa. 1846.

Barker, B. B. New York City. 1790.

Barker, William. Boston, Mass. 1823.

Barnes & Bacon. Bristol, Conn. 1840.

Barnes & Bailey. Berlin, Conn. 1831.

Barnes, Thomas. Bristol, Conn. 1840.

Barnes, Timothy. Litchfield, Conn. 1790. He was born in Branford, Conn., in 1760.

Barrows, James M. Tolland, Conn. 1832.

Bartholomew, E. & G. Bristol, Conn. About 1820.

Barton, Benjamin. Alexandria, D. C. 1832. "Clock and Watch Maker, Keeps for sale a general assortment of Clocks, Watches, etc. South side of King Street between Fairfax and Royal."

Barry, Standish. Baltimore, Md. 1804.

Bassett, N. B. Albany, N. Y. 1813.

Bateson, John. Boston, Mass. 1720. He died in 1727 and left in his shop an eight-day clock movement valued at £25 10s. and a silver repeating watch £90.

Batterson, James. Boston, Mass. 1707-30.

Battles, A. B. Utica, N. Y. 1847.

Baugh, Valentine. Abingdon, Va. 1820-30.

Baur, John N. New York City. 1832.

Bayley, Calvin. Hingham, Mass. 1800.

Bayley, John. Hanover, Mass. 1770-1815.

Bayley, John. Son of John, 1. Hingham, Mass. 1815-20.

Bayley, Joseph. Hingham, Mass. 1808.

Bayley, Simeon C. Philadelphia, Pa. 1794.

Beard, Duncan. Appoquinemonk, Del. 1755-97.

Beach & Hubbard. Bristol, Conn. 1869. Marine clocks.

Belk, William. Philadelphia, Pa. 1796.

Belknap, Ebenezer. Boston, Mass. 1823.

Bell, James. New York City. 1804.

Bell, John. New York City. Advertises in 1734, eight-day clocks with Japan cases.

Benedict & Burnham Co. Waterbury, Conn. 1850-55. This was the company which Chauncey Jerome was induced to enter, and the failure of which "hopelessly ruined" him.

Benedict, S. W. 30 Wall St., New York. 1829. "Particular attention paid to the repairs of watches and clocks."

Benjamin, Barzillai. New Haven, Conn. 1823. "Gold

and Silver watches, Duplex or vertical movements, warranted for one year."

Berwick, Abner. Berwick, Me. 1820.

Bevans, William. Norristown, Pa. 1816.

Bigger & Clarke. Baltimore, Md. 1784.

Bigger, Gilbert. Baltimore, Md. 1799.

Billow, Charles, & Co. Boston, Mass. 1796.

Birdsey, E. C., & Co. Meriden, Conn. 1831. "Manufacturers of improved clocks."

Birge, John. Bristol, Conn. 1830-37.

Birge, Gilbert & Co. Bristol, Conn. 1835.

Birge, Mallory & Co. Bristol, Conn. 1830. R. H. Maunders has a clock with this name and "Dayton, Ohio."

Birge, Peck & Co. Bristol, Conn. 1830.

Bisbee, J. Brunswick, Me. 1798-1825.

Bishop & Bradley. Plymouth, Conn. 1825-30. This firm consisted of James Bishop and L. B. Bradley.

Bissell, David. East Windsor, Conn. 1832. His advertisement reads, "Watch and Clock Maker and Dentist."

Bixler, Christian. Easton, Pa. 1785-1830.

Blakeslee, Marvin & Edward. Heathenville (near Plymouth), Conn. 1832.

Boardman, Chauncey. Bristol, Conn. 1813-23.

Boardman & Dunbar. Bristol, Conn. 1811.

Boardman & Wells. Bristol, Conn. 1815.

Bode, William. Philadelphia, Pa. 1796.

Bogardus, Everardus. New York City. 1698.

Bond, William. Boston, Mass. 1800-10. Hang-up clocks.

Bonfanti, Joseph. 305 Broadway, New York. 1823. He advertises for sale, German and French clocks.

"Large elegant timepieces playing sweet tunes,
And cherry-stones too that hold ten dozen spoons;
And clocks that chime sweetly on nine little bells,
And boxes so neat ornamented with shells."

Bonnaud, ——. Philadelphia, Pa. 1799.

Boss & Peterman. Rochester, N. Y. 1841. "We strive to Excel. Dealers in Watches and Jewelry, No. 53 Buffalo St. Try us before purchasing elsewhere. We feel warranted in saying that all watch and clock work entrusted to our care will be executed better than at any other establishment in this city."

Boughell, Joseph. New York City. 1787.

Bower, Michael. Philadelphia, Pa. 1790-1800.

Bowman, Joseph. Lancaster, Pa. 1821-44.

Bowne, Samuel. Burling Slip, New York City. Advertises in 1751 "Japanned and Walnut cased Clocks."

Bradley, Nelson. Plymouth, Conn. 1840.

Bradley, Richard. Hartford, Conn. .1839.

Bradley, Z., & Son. New Haven, Conn. 1840.

Brandegee, Elishama. Berlin, Conn. 1832. "Manufacturer of Cotton Thread, Clocks of all descriptions, and dealer in American goods."

Brands & Matthey. Philadelphia, Pa. 1799.

Brant, Brown & Lewis. Philadelphia, Pa. 1795.

Brasher, Abraham. New York City. 1757.

Brasier, Amable. Philadelphia, Pa. 1795-1820.

Brastow, Adison & Co. Lowell, Mass. 1832.

Brearley, James. Philadelphia, Pa. 1793-99.

Breckenridge, J. M. Meriden and New Haven, Conn. Born 1809, died 1896. "Mr. Breckenridge, who died at the age of 87, had been a clockmaker all his life, and his death removed the last one of the original Connecticut clockmakers. He learned his trade when 19, and lived through the wonderful growth of the clockmaking business, saw wood clocks crowd out cast brass, and sheet brass take the place of wood. Although a clockmaker for so many years Mr. Breckenridge never acquired a fortune, as so many of his cotemporaries did, and was at his bench in the shop of the New Haven Clock Co. till within a few months of his death. His last work was making dies for clock hands, which requires special skill. During his long career he made many improvements in the tools for making clocks, among them the punch-box or pick-off die, which punches pivot holes in the brass frame. When a young man he invented the wire clock bell or gong, and fifty years ago these bells were used on nearly all the large clocks, but few are employed now. In 1850 Mr. Breckenridge went into the powder-flask business in Springfield, Mass., but finding it unprofitable returned to his clockmaking work, which he never again gave up till a few months before his death."

Brewer, William. Philadelphia, Pa. 1785-91.

Brewster, Ives. Bristol, Conn. 1814-36.

Brewster & Ingraham. Bristol, Conn. 1827-43.

Brinckerhoff, Dirck. Dock Street, New York. 1756. "At the Sign of the Golden Lock."

Bronson, I. W. Buffalo, N. Y. 1825-30. "Improved brass clocks."

Brooks, B. F. Utica, N. Y. 1847.

Brown, David. Providence, R. I. 1834-50.

Brown, Gawen. Boston, Mass. 1750-76.

Brown, J. C. Bristol, Conn. 1827-37.

Brown, Laurent. Rochester, N. Y. 1841. "Watch and Clock Establishment."

Brown & Kirby. New Haven, Conn. 1840.

Burkelow, Samuel. Philadelphia, Pa. 1791-99.

Burnap, Daniel. East Windsor, Conn. 1780-1800. He also lived for a time at Andover, Mass., and Plymouth, Conn. His clocks always had brass works, tall cases, and silvered dials beautifully engraved. Moon phases and calendar attachments are also found on many of them.

Burr, C. A. Rochester, N. Y. 1841. "Wholesale and retail Dealer in Watches, Clocks, Jewelry and etc. Has on sale Gold, Silver, Duplex, Anchor, Independent Sec'ds, Patent Lever, Lepine and Vertical Watches, French, Mantel, Wood, Brass 30 hour and 8 day clocks."

Burr, Ezekiel & William. Providence, R. I. 1792.

Burritt, Joseph. Ithaca, N. Y. 1831.

Bush, George. Easton, Pa. 1812-37.

Butler, N. Utica, N. Y. 1803.

C

Cain, C. W. 137 William St., New York City. 1836. "Clock and Watchmaker."

Cairns, John. Providence, R. I. 1784.

Cairns, John, 2. Providence, R. I. 1840-53.

Camp, Hiram. New Haven, Conn. Born 1811, died 1893. Organized New Haven Clock Co., 1853.

Campbell, Charles. Philadelphia, Pa. 1795-99.

Campbell, R. A. Baltimore, Md. 1832.

Campbell, William. Carlisle, Pa., in 1765. Philadelphia in 1799.

Canby, Charles. Wilmington, Del. 1815-50.

Capper, Michael. Philadelphia, Pa. 1799.

Carrell, John. Philadelphia, Pa. 1791-93.

Carver, Jacob. Philadelphia, Pa. 1785-99.

Cary, James. Brunswick, Me. 1808-50. It was to this James Cary that A. L. Dennison was apprenticed.

Case, Erastus. Bristol, Conn. 1830-37. The two Case brothers and John Birge made eight-day clocks with brass works. Their clocks were retailed mostly in the South, and their output was about 4,000 a year.

Case, Harvey. Bristol, Conn. 1830-37.

Case, Dyer, Wadsworth & Co. Augusta, Ga. 1835.

Chadwick, Joseph. Boscowen, N. H. 1810-31.

Chandlee, Benjamin. Baltimore, Md. 1817.

Chandlee, John. Wilmington, Del. 1795-1810.

Chandler, Abiel. Concord, N. H. 1829-58.

Chandler, Timothy. Concord, N. H. 1785-1840.

Chase, Timothy. Belfast, Me. 1826-40.

Chaudron, ——. Philadelphia, Pa. 1709.

Cheeny, J. East Hartford, Conn. 1790.

Cheney, Benjamin. Manchester, Conn. 1770-80.

Cheney, Olcott. Middletown, Conn. He advertises from Berlin, Conn., in 1832.

Cheney, Timothy. Manchester, Conn. 1760-76.

Chester, George. New York City. 1757. "At the Sign of the Dial on New Dock."

Child, True W. Boston, Mass. 1823.

Childs, John. Philadelphia, Pa. 1835.

Clagget, H. Newport, R. I. 1730. Maker of a fine clock in case of English walnut, belonging to Frederic Dodge of Providence, R. I.

Clagget, Thomas. Newport, R. I. 1730-49.

Clagget, William. Newport, R. I. 1730-49. Brother of Thomas.

Clark, Benjamin. Wilmington, Del. 1837-50.

Clark, Daniel. Waterbury, Conn. 1815-20.

Clark, Heman. Plymouth Hollow, Conn. 1807.

Clark, Joseph. Danbury, Conn. 1800.

Clark, Joseph. New York City. 1768. He advertises: "Some exceedingly good 8 day clocks in very neat mahogany cases."

Clark, Lucius. Winsted, Conn. 1841.

Clark, Sylvester. Salem Bridge, Conn. 1830.

Clarke, Benjamin. Philadelphia, Pa. 1790-99.

Clarke, Charles. Philadelphia, Pa. 1806-11.

Clarke, Ephraim. Philadelphia, Pa. 1780-1810. At Front and Market Sts. in 1780.

Clarke, George G. 27 Cheapside, Providence, R. I. 1824.

Clarke, John. Philadelphia, Pa. 1799.

Clarke, John. New York City. 1770-90. He was a maker of shagreen cases also.

Clarke & Ellis. Philadelphia, Pa. 1811-45.

Clarke, Gilbert & Co. Winsted, Conn. 1842.

Clements, Moses. "In the Broadway, New York, 1749."

Cleveland, William. Salem, Mass. 1780.

Conant, Elias. Bridgewater, Mass. 1776-1812.

Conant, Elias. Lynn, Mass. 1812-1815.

Conant, W. S. 177 Pearl St., New York. About 1820. His clockpaper says "Warranted good."

Conrad, O. Philadelphia, Pa. 1846.

Cook, E. Rochester, N. Y. 1824.

Cook, Zenas. Waterbury, Conn. 1815-20.

Corliss, James. Weare, N. H. 1800.

Cox & Clark. New York City. 1832.

Cranch, R. Boston, Mass. 1771. Sold all kinds of watch- and clockmakers' tools.

Cranch, Richard. Braintree, Mass. 1789.

Crow, George. Wilmington, Del. 1740-70.

Crow, John. Wilmington, Del. 1770-98.

Crow, Thomas. Wilmington, Del. 1770-1824.

Crow, Thomas. Philadelphia, Pa. 1795.

Cummens, William. Roxbury, Mass. 1788-1834. Maker of long-case, shelf clocks and timepieces. He usually put on his clocks, "Warranted by William Cummens, Roxbury."

Cure, Lewis. Brooklyn, N. Y. 1832.

Currier, Edmund. Salem, Mass. 1837. "Watches, Timepieces, Gallery Clocks and Regulators."

Curtis, Lemuel. Concord, Mass. 1810-18. He moved to Burlington, Vt., at the latter date. Made small wall clocks.

Curtis, Solomon. Philadelphia, Pa. 1793.

Curtis & Dunning. This name is on an unusually elegant banjo clock owned by Mrs. S. C. McKown, Rochester, N. Y. Also the handsomest clock at the Red Lion Inn, Stockbridge, Mass., is banjo in shape and entirely gilt.

The name "Curtis" is on the dial.

Custer, Jacob D. Norristown, Pa. Born 1805, died 1872. He began the manufacture of "Grandfather clocks" about 1831. In 1842 he commenced the manufacture of clocks to propel the lights in lighthouses.

D

Daft, Thomas. New York City. 1787.

Dana, George. Providence, R. I. 1805.

Dana, Peyton & Nathaniel. Providence, R. I. 1800.

Darrow, Elijah. Bristol, Conn. 1822-30.

Davidson, Barzillai. New Haven, Conn. 1825.

Davis, John. New Holland Patent, Pa. 1802-05.

Davis, William. Boston, Mass. 1683. He came from England to pursue his trade, and David Edwards became surety for Davis and his family, that they would not become charges on the town.

Davis & Babbitt. Providence, R. I. 1810.

DeForest & Co. Salem Bridge, N. Y. 1832. They advertise "Watches and clocks and buttons of all kinds are manufactured."

Delaplaine, James K. New York City. 1786-1800.

Deloste, Francis. Baltimore, Md. 1817.

Demilt, Thomas. Philadelphia, Pa. Nineteenth century.

Dennison, Aaron L. Born 1812, died 1895.

De Riemer & Mead. Ithaca, N. Y. 1831.

De Saules & Co. New York City. 1832.

Deverell, John. Boston, Mass. 1789-1803.

Dexter, Joseph W. Providence, R. I. 1824.

De Young, Meichel. Baltimore, Md. 1832.

Dodge, Ezra W. Providence, R. I. 1824.

Dodge, George. Salem, Mass. 1837.

Dodge, Nehemiah. Providence, R. I. 1794-1824.

Dodge, Seril. Providence, R. I. 1788. He was a gold- and silversmith as well.

Doolittle, Isaac. New Haven, Conn. 1748-1810.

Doty, John F. Albany, N. Y. 1813.

Dowling, G. R. & B., & Co. Newark, N. J. 1832.

Downs, Anson. Bristol, Conn. 1830.

Downs, Ephraim. Bristol, Conn. 1820.

Dudley, Benjamin. Newport, R. I. 1840.

Duffield, Edward. Born in Philadelphia Co., Pa., in 1720, died in Lower Dublin,

Pa., 1801. He worked at his trade of clock and watch maker in Philadelphia, from 1741-47, then moved to Lower Dublin, Pa.

Dunbar, Butler. Bristol, Conn. 1830.

Dunbar & Merriam. Bristol, Conn. 1815.

Dunheim, Andrew. New York City. 1775.

Dunning & Crissey. Rochester, N. Y. 1847.

Dupuy, John. Philadelphia, Pa. 1770.

Dupuy, Odran. Philadelphia, Pa. 1735.

Dutch, Stephen, Jr. Boston, Mass. 1800-10.

Dyar, Warren. Lowell, Mass. 1831. "Clocks and Timepieces of brass, eight-day movements, set up and warranted correct time keepers. Prices from 9 to 25 dollars."

Dyer, Joseph. Concord, Mass. 1815-20. Joseph Dyer was a journeyman with Lemuel Curtis, and when the latter moved to Burlington, Dyer carried on the business alone. Later he went to Middlebury, Vt.

E

Easterley, John. New Holland, Pa. 1825-40.

Eastman, Abel B. Haverhill, Mass. 1816-21.

Eastman, Robert. Brunswick, Me. 1805-08.

Eastman & Cary. Brunswick, Me. 1808.

Eaton, John H. Boston, Mass. 1823.

Eberman, John. Lancaster, Pa. 1780-1820.

Edson, Jonah. Bridgewater, Mass. 1815-30.

Edwards, Abraham. Ashby, Mass. 1794-1840. A self-taught clockmaker.

Eliot, William. Baltimore, Md. 1799.

Elliot, Hazen. Lowell, Mass. 1832. "Watch and comb maker and jeweller."

Elsworth, David. Windsor, Conn. 1780-1800.

Elvins, William. Baltimore, Md. 1799.

Embree, Effingham. New York City. 1790.

Emery, Jesse. Weare, N. H. 1800.

Ent, John. New York City. 1758.

Evans, David. Baltimore, Md. 1770-73. "At the Sign of the Arch, Dial and Watch, Gay street."

F

Fales, G. S. New Bedford, Mass. 1827.

Fales, James. New Bedford, Mass. 1810-20.

Fales, James, Jr. New Bedford, Mass. 1836.

Farnham, S. S. Oxford, N. Y. 1842.

Farnum, Henry & Rufus. Boston, Mass. 1780.

Farr, John C. Philadelphia, Pa. 1832.

Fellows, James K. Lowell, Mass. 1832.

Fellows, Read & Olcott. 17 Maiden Lane, New York City. 1829. "Gold and Silver watches of Tobias, Roskell and other makers."

Fellows, Storm & Cargill. New York City. 1832.

Ferris, Tiba. Wilmington, Del. 1812-50.

Fessler, John. Fredericktown, Md. 1782-1820.

Fessler, John, Jr. Fredericktown, Md. 1820-40.

Feton, J. Philadelphia, Pa. 1828-40.

Fiffe, H. Maker of a banjo clock belonging to Mrs. Brownell of Providence, R. I.; no address given.

Fish, Isaac. Utica, N. Y. 1846.

Fite, John. Baltimore, Md. 1817.

Fix, Joseph. Reading, Pa. 1820-40.

Fletcher, Charles. Philadelphia, Pa. 1832.

Fletcher, Thomas. Philadelphia, Pa. 1832.

Forestville Manufacturing Co. Bristol, Conn. About 1825.

Foster, John C. Portland, Me. 1834. "Horography, Watches, Clocks and Timekeepers of all escapements cleaned and adjusted."

Foster, Nathaniel. Newburyport, Mass. 1818.

Fowell, J. & N. Boston, Mass. 1800-10.

Francis, Basil & Alexander Vuille. Baltimore, Md. 1766.

Frost, Oliver. Providence, R. I. 1800.

Frost & Mumford. Providence, R. I. 1810.

G

Gaines, John. Portsmouth, N. H. 1800.

Galbraith, Patrick. Philadelphia, Pa. 1795.

Galpin, Moses. Bethlehem, Conn. Not a maker but a peddler, though he put his name on clocks he bought from others. About 1825.

Galt, Peter. Baltimore, Md. 1804.

Gardiner, B. New York City. 1832.

Gardiner, John B. Ansonia, Conn. 1857.

Garrett, Benjamin. Goshen, N. Y. 1820.

Garrett & Sons. Philadelphia, Pa. 1832.

Gates, Zacheus. Charlestown, Mass. 1831.

Geddes, Charles. Boston, Mass. 1773.

Gelston, George S. New York City. 1832.

Gelston, Hugh. Baltimore, Md. 1832.

Gerding & Siemon. New York City. 1832.

Gerrish, Oliver. 3 Exchange St., Portland, Me. 1834. "Clocks, watches and jewelry repaired."

Gilbert, William L. Winsted, Conn. 1823-66.

Gilbert Co. Winsted, Conn. 1866.

Gilbert, Jordan & Smith. New York City. 1832.

Gilbert, Richards & Co. Chester, Conn. 1832.

Gill, Caleb. Hingham, Mass. 1785.

Gill, Leavitt. Hingham, Mass. 1785.

Giraud, Victor. New York City. 1847.

Glover, William. Boston, Mass. 1823.

Goddard, George S. Boston, Mass. 1823.

Godfrey, William. Philadelphia, Pa. Died 1763.

Goodfellow, William. Philadelphia, Pa. 1793-95.

Goodfellow, William, & Son. Philadelphia, Pa. 1796-99.

Goodhue, D. T. Providence, R. I. 1824.

Goodhue, Richard S. Portland, Me. 1834.

Gooding, Henry. Boston, Mass. 1810-20.

Goodwin, Horace, Jr. Hartford, Conn. 1831.

Gorden, Smyley. Lowell, Mass. 1832. He was a maker of clock cases, and put his name on them.

Gordon, Thomas. Boston, Mass. 1759. "From London, opposite the Merchant's Coffee House, sells all kinds of Timepieces."

Gould, Abijah. Rochester, N. Y. 1834. "To be found at Starr's Cabinet Shop, Main St."

Govett, George. Norristown, Pa. 1831.

Grant, William. Boston, Mass. About 1815. His name is on a clock paper in a banjo clock.

Graves, Alfred. Willow Grove, Pa. 1845.

Green, John. Philadelphia, Pa. 1794.

Groppengerser, J. L. Philadelphia, Pa. 1840.

Grotz, Isaac. Easton, Pa. 1810-35.

Gruby, Edward L. Portland, Me. 1834. Maker of clocks only.

Guinard, F. E. Baltimore, Md. 1817.

H

Hall, Seymour & Co. Unionville, Conn. About 1820.

Ham, George. Portsmouth, N. H. 1810.

Hamlen, Nathaniel. Augusta, Me. 1795-1820.

Hamlin, William. Providence, R. I. 1797.

Hampton, Samuel. 136 Hanover Block, Chelsea, Mass. 1847.

Hanks, Benjamin. Litchfield, Conn. 1783. Was awarded patent by Assembly of Connecticut for fourteen years, for self-winding clock.

Harland, Thomas. Norwich, Conn. 1773-1807. Eli Terry was apprenticed to him in 1786.

Harrison, James. Waterbury, Conn. 1790-1830.

Harrison, Lemuel. Waterbury, Conn. 1800.

Hart, Alpha. Goshen, N. Y. 1820. Maker of shelf clocks.

Harwood, George. Rochester, N. Y. 1839. "Clocks, warranted to keep good time. 20 cases just received from Connecticut, which will be sold by the case or singly as low as any warranted clocks can be sold in this city. Please call at 39 Buffalo Street, George Harwood."

Haselton & Wentworth. Lowell, Mass. 1832.

Hawxhurst & Demilt. New York City. 1790.

Hayes, Peter B. Poughkeepsie, N. Y. 1831.

Heath. Reuben. Scottsville, N. Y. 1791-1818. He was a clockmaker and repairer and sold clocks of other makers. In a very handsome mahogany case clock, pillar and scroll design, was this paper: "Riley Whiting's model improved clocks, cased and sold by Nettleton, Heath & Co., Scottsville, N. Y." Mr. Heath was a Revolutionary soldier and came to the "Genesee Country" from Vermont in 1791. He died in 1818 and was buried with military honours.

Hedge, George. 8 Cheapside, Buffalo, N. Y. 1831.

Heilig, Jacob. Philadelphia, Pa. 1770-1824.

Heilig, John. Germantown, Pa. 1824-30.

Hendricks, Uriah. New York City. 1756. Hendricks was by trade a watchmaker, and advertises: "At his store next door to the Sign of the Golden Key in Hanover Square has imported two fine repeating 8 day clocks which strike every half hour and repeat."

Hepton, Frederick. Philadelphia, Pa. 1785.

Hequembourg, C. Church St., New Haven, Conn. 1818. He was in business many years and advertised freely. He sold gold and silver watches with gold or enamelled dials, and repaired

clocks and watches. At one time he had 36 watches stolen from his shop window.

Heron, Isaac. New York City. 1769-80. "Isaac Heron, watchmaker, facing Coffee House Bridge, has a musical clock noble and elegant, also a neat and extraordinary good chamber repeating clock." A clock by him at the rooms of the Clockmakers' Company in London is labeled, "Evidently of English make."

Hicks, Willet. New York City. 1790.

Hildeburn & Watson. Philadelphia, Pa. 1832.

Hill, D. Reading, Pa. 1820-40.

Hill, Joakim. Flemington, N. J. 1800. He made long-case clocks of excellent workmanship, and charged a good price for them. Some are still to be found in going order.

Hilldrop, Thomas. Hartford, Conn. 1773. "At the Sign of the Dial."

Hiller, Joseph. Salem, Mass. 1770.

Hitchcock, H. Lodi, N. Y. About 1800. "Seals, keys, chains, clocks and watches for sale by H. Hitchcock, Lodi, N. Y." On a watch paper in a round, heavy, pair-case silver watch owned by Mr. Fritz Hahn, Rochester, N. Y.

Hitchcock, Samuel R. Humphreysville, N. Y. 1810.

Hoadley, Samuel & Luther. Winsted, Conn. 1807.

Hoadley, Silas. Bristol, Conn. 1808.

Hodges & North. Wolcottville, Conn. 1830.

Hodgson, William. Philadelphia, Pa. 1785.

Hoffner, Henry. Philadelphia, Pa. 1791.

Holman, Salem. Hartford, Conn. 1816.

Holway, Philip. Falmouth, Mass. 1800.

Homer, William. Moreland, Pa. 1849.

Hopkins, Asa. Litchfield, Conn. 1820. Hang-up clocks.

Hopkins, H. P. Philadelphia, Pa. 1832.

Hopkins & Alfred. Harwinton, Conn. 1820. Hartford, Conn. 1827. They made excellent clocks, wood works. One in Rush, N. Y., bought in 1827, still an excellent timekeeper. An old clock repairer declares that this firm made the best wood clocks he has ever handled.

Horn, Eliphalet. Lowell, Mass. 1832.

Horn, E. B. Boston, Mass. 1847.

Hotchkiss, Elisha. Burlington, Conn. About 1815.

Hotchkiss, Hezekiah. New Haven, Conn. 1748.

Hotchkiss, Robert & Henry. Plymouth, Conn. "Prior to 1846."

Hotchkiss & Benedict. Auburn, N. Y. About 1820. They were makers of shelf clocks and advertised: "A Mungers Patent 8 day Brass clocks, made, warranted and sold wholesale and retail. Hotchkiss & Benedict."

Hotchkiss & Field. Burlington, Conn. 1820.

Hotchkiss & Pierpont. Plymouth, Conn. 1811.

Howard, Edward. Clock and scalemaker. Born in Hingham, Mass., 1813. He went into partnership with D. P. Davis, and for years they carried on a successful business in clocks and regulators. In 1857 he went to Roxbury and opened the old factory of the Boston Watch Co. About a year after starting they put their product on the market, and the "Howard Watches" established a reputation for superior timekeepers.

Howard, Thomas. Philadelphia, Pa. 1789-91.

Hoyt, George A. Albany, N. Y. 1830.

Hoyt, James A. 242 River St., Troy, N. Y. 1837.

Hubbard, Daniel. Medfield, Mass. 1820.

Hubbell, L. On a mahogany clock, case 8 in. square, brass works, hour strike, owned at Fillmore, N. Y.

Huguenail, Charles T. Philadelphia, Pa. 1799.

Humbert, Dross. Philadelphia, Pa. 1795.

Hunt, ——. New York City. 1789.

Hutchins, Abel. Concord, Mass. 1788-1809. Simon Willard's apprentice.

Hutchins, Levi. Concord, Mass. 1788-1809. Simon Willard's apprentice.

Hyman, Samuel. Philadelphia, Pa. 1799. His shop was at "8 Market Space."

I

Ingersoll, Daniel G. Boston, Mass. 1800-10.

Ingraham, E., & Co. Bristol, Conn. 1870.

Ingraham, Elias. Bristol, Conn. Born 1805, died 1885. Designer of many styles of cases for shelf clocks, and founder of a large business which is still running.

Ives, Chauncey. Bristol, Conn. 1827-36.

Ives, Joseph. Bristol, Conn. 1811-25. In 1818 Joseph Ives invented a metal clock, mak-

ing the plates of iron and wheels of brass. The movement was very large and required a case about five feet long. They were made only for a year or two and in small quantities.

Ives, Lawson. Bristol, Conn. 1827-36. About 1831 Lawson & Chauncey Ives built a factory for making eight-day brass clocks after an invention of Joseph's. This clock sold for about $20, and they made large numbers of them, retiring in 1836 with a fortune. They advertised in 1832: "8 day patent brass and 30 hour wood clocks."

J

Jackson, Joseph H. Philadelphia, Pa. 1802-10.

James, Joshua. Boston, Mass. 1823.

Jencks, John E. Providence, R. I. 1800.

Jenkins, Ira. Albany, N. Y. 1813.

Jenkins, Harman. Albany, N. Y. 1817.

Jerome, Chauncey. Bristol and New Haven, Conn. 1816-1860.

Jerome, Nobles. Bristol, Conn. 1820-40.

Jeromes & Darrow. Bristol. Conn. 1824-31. In the latter year they advertised "Fancy 30 Hour and 8 day wood clocks."

Jerome Manufacturing Co. New Haven, Conn. 1850-55.

Jocelyn, Nathaniel. New Haven, Conn. 1790.

Johnson, Addison. Wolcottville, Conn. 1825. Pillar and scroll clocks, handsome cases and good works.

Johnson, Chauncey. 456 South Market St., Albany, N. Y. 1829. "Musical, ornamental and common clocks."

Johnson, Simon. Sanbornton, N. H. 1840-60.

Johnson, W. S. Cortlandt St., New York. About 1830.

Jonckheere, Francis. Baltimore, Md. 1817.

Jones, Abner. Weare, N. H. 1780. In 1885 an eight-day brass clock made by him sold for $83, "more than a hundred years after it was made."

Jones, Ball & Poor. Boston, Mass. 1847.

Jones, Edward K. Bristol, Conn. 1825.

Jones, Ezekiel. Boston, Mass. 1823.

Jones, George. Wilmington, Del. 1810-37.

Jones, George, Jr. Wilmington, Del. 1814.

Jones, Jacob. Baltimore, Md. 1817.

Jones, Samuel. Baltimore, Md. 1817.

Joseph, Isaac. Boston, Mass. 1823.

Joslyn, James. New Haven, Conn. 1798-1820.

K

Kedzie, J. Rochester, N. Y. 1847.

Kelly, Allan. Sandwich, Mass. 1810-30.

Kelly, Ezra. New Bedford, Mass. 1823-45.

Kelly, John. New Bedford, Mass. 1836.

Kemlo, Francis. Chelsea, Mass. 1847.

Kennedy, Patrick. Philadelphia, Pa. 1795-99.

Kenney, Asa. About 1800. Connecticut.

Kepplinger, Samuel. Baltimore, Md. 1800.

Kerner & Paff. 245 Water St., New York. 1796. They had musical and cuckoo clocks on sale.

Kimball, John, Jr. Boston, Mass. 1823.

Kincaird, Thomas. Christiana Bridge, Del. 1775.

Kippen, George. Bridgeport, Conn. 1822. Kept a great variety of goods and made and repaired clocks and watches.

Kirk, Charles. Bristol, Conn. 1823.

Kline, John. Reading, Pa. 1820-40.

Kohl, Nicholas. Willow Grove, Pa. 1830.

Koplin, Washington. Norristown, Pa. 1850.

Kumbell, William. New York City. 1775-89.

L

Ladomus, Lewis. Philadelphia, Pa. 1846.

Lane, Mark. Southington, Conn. 1831. "Manufacturer of Eli Terry's Patent Clocks."

Lanny, D. F. Boston, Mass. 1789.

Launay, David. 9 Warren St., New York. Has in 1801 for sale at his watchmaking shop, "a high finished clock which decorated the library of the late King of France."

Lawrence, George. Lowell, Mass. 1832.

Leach, Caleb. Plymouth, Mass. 1776-90.

Leach & Bradley. Utica, N. Y. 1832.

Leavenworth, Mark. Waterbury, Conn. 1810-30.

Leavenworth, Mark, & Co. Waterbury, Conn. 1832.

Leavenworth, William. Waterbury, Conn. 1810-15.

Leavenworth & Sons. Albany, N. Y. 1817.

Leavitt, Dr. Josiah. Hingham, Mass. 1772.

Lee, William. Charles Town, S. C. 1717. He was the maker of a fine clock, brass works, San Domingo mahogany case, which tells the tides, phases of moon, days of month, is still in going order and in Charleston.

Le Huray, Nicholas, Jr. Philadelphia, Pa. 1832.

Leigh, David. Pottstown, Pa. 1849.

Lemist, William K. Dorchester, Mass. 1812. Lost at sea, 1820.

Leslie, Robert. Philadelphia, Pa. 1745-91. "Robert Leslie Clock and Watchmaker on the north side of Market between Fourth and Fifth st., Philadelphia, Having obtained Patents for several Improvements on Clocks and Watches, begs leave to inform his friends and the public that he is now ready to execute any work on the said constructions; which may be applied to Clocks and Watches already made or new ones, and on trial have been found superior to any heretofore brought into common use. He has so simplified the repeating part of a watch as to enable him to make it at two-thirds of the common price which will not only be an advantage in the first purchase, but ever after as it can be cleaned when necessary for two-thirds less than the common price. He has also simplified the striking parts of clocks, which enables him to reduce the price one-fourth; and repairs at the lowest prices, horizontal, repeating, plain and other watches, and musical, chiming and plain clocks, with punctuality and dispatch and warrants all the work done in his shop. An assortment of Clock- and Watch-makers Tools and Materials for sale on Reasonable Terms. Two Journeymen and an Apprentice wanted."—*Gazette of the United States,* Philadelphia, 1791.

Leslie & Price. Philadelphia, Pa. 1793-99.

Lester, Robert. Philadelphia, Pa. 1791-98.

Lewin or **Lewis, Levi.** Bristol, Conn. 1820.

Liebert, Henry. Norristown, Pa. 1849.

Limeburner, John. Philadelphia, Pa. 1791.

Lind, John. Philadelphia, Pa. 1791-99.

Lister, Thomas. Halifax, British North America. 1760-1802. He was a maker of very choice long-case clocks, and in many of them which are still found going are the following lines generally

pasted on the door of the body:

"Lo! here I stand by thee
To give thee warning day and night;
For every tick that I do give
Cuts short the time thou hast to live.
Therefore, a warning take by me,
To serve thy God as I serve thee:
Each day and night be on thy guard,
And thou shalt have a just reward."

Little, Peter. Baltimore, Md. 1799.

Lohse & Keyser. Philadelphia, Pa. 1832.

Lockwood & Scribner. New York City. 1847.

Lord & Goddard. Rutland, Vt. 1797-1830.

Lorton, William B. New York City. 1810-25. "Manufacturer and wholesale dealer in American clocks in all their variety."

Lovis, Capt. Joseph. Hingham, Mass. 1775-1804.

Lowens, David. Philadelphia, Pa. 1785.

Ludwig, John. Philadelphia, Pa. 1791.

Lufkin & Johnson. Boston, Mass. 1800-10.

Lukens, Isaiah. Philadelphia, Pa. 1790-1828.

Lukens, Seneca. Horsham Meeting, Pa. 1830.

Luscomb, Samuel. Salem, Mass. 1773.

Lyman, Roland. Lowell, Mass. 1832.

Lynch, John. Baltimore, Md. 1804-32.

M

Macfarlane, John. Boston, Mass. 1800-10.

Mackay, Crafts. Boston, Mass. 1789.

Manning, Richard. Ipswich, Mass. 1748-60.

Marache, Solomon. New York City. 1759. "Opposite the Fort."

Marand, Joseph. Baltimore, Md. 1804.

Marble, Simeon. New Haven, Conn. 1817. Made and sold clocks, watches, and silverware.

Marks, Isaac. Philadelphia, Pa. 1795.

Marquand & Bros. New York City. 1832.

Marsh, George C. Torrington, Conn. 1830.

Marsh, George. Winsted, Conn. 1820.

Marsh, Gilbert & Co. Farmington, Conn. 1820. Made shelf clocks.

Masi, Seraphim. Washington, D. C. 1832.

Masi & Co. Washington, D. C. 1833.

Munger & Pratt. Ithaca, N. Y. 1832.

Munroe, Daniel, Jr. Boston, Mass. 1823.

Munroe, Daniel. Concord, Mass., 1800-08; he then moved to Boston.

Munroe, Nathaniel. Concord, Mass. 1777-1816. He served his apprenticeship with Abel Hutchins of Concord, and in 1800 was in business in Concord with his elder brother Daniel. In 1808 Daniel removed to Boston, but Nathaniel remained till 1817, when he moved to Baltimore. The latter part of the time he was in Concord, he was in partnership with Samuel Whiting under the firm name of "Munroe & Whiting." A large business was done, chiefly eight-day clocks with brass works, and they had seven or eight apprentices and journeymen. Nathaniel also had an extensive brass foundry where he made bells, clock movements, etc.

N

Neiser, Augustine. 1737-80. He emigrated from his birthplace, Moravia, to Georgia in 1736; moved to Germantown, Pa., in 1739. All his clocks bear his name upon the dial, but none are dated.

Nettleton, Heath & Co. Scottsville, N. Y. 1800-18. "Riley Whitings model improved Clocks, cased and sold by Nettleton, Heath & Co., Scottsville, N. Y."

Nettleton, W. K. Rochester, N. Y. 1834.

Newell, Thomas. Sheffield, Mass. 1810-20.

New Haven Clock Co. 1855.

Nicholls, George. New York City. 1728-50.

Nicolette, Mary. Philadelphia, Pa. 1793-99.

Ninde, James. Baltimore, Md. 1799.

North, Norris. Wolcottville, Conn. 1820.

Northrop, R. E. New Haven, Conn. About 1820.

Northrup & Smith. Goshen, N. Y. 1816.

Norton, Samuel. Hingham, Mass. 1785.

O

Oakes, Henry. Hartford, Conn. 1839.

O'Hara, Charles. Philadelphia, Pa. 1799.

Oliver, Griffith. Philadelphia, Pa. 1785-93.

Oliver, Welden. Bristol, Conn. About 1820. Maker of shelf clocks, wood works, 1 day time, bell strike.

Olmsted, Nathaniel. New Haven, Conn. 1826. "117 N.

Side Chapel Street a few doors east of the bank." Watches, jewelry, and silverware. Clocks and watches made and repaired.

O'Neil, Charles. New Haven, Conn. 1823. "Clock and Watch repairer informs his friends and the public he is at work at Messrs. Merriman and Bradley and solicits their patronage."

Orton, Preston & Co. Farmington, Conn. About 1815.

Osgood, John. Boston, Mass. 1823.

P

Packard, J. Rochester, N. Y. 1819.

Packard & Scofield. Rochester, N. Y. 1818. "Perpetual Motion." "Packard & Scofield, Watchmakers, have at their shop next door south of 'The Telegraph,' a handsome assortment of Gold, Silver and Plated ware which will be sold at a moderate profit, for no man can live by the loss. Clocks and watches of every description repaired and warranted to keep in motion merely by winding every day."

Paine & Heroy. Albany, N. Y. 1813.

Palmer, John. Philadelphia, Pa. 1795.

Park, Seth. Park Town, Pa. 1790.

Parke, Solomon. Philadelphia, Pa. 1791-95.

Parke, Solomon, & Co. Philadelphia, Pa. 1799.

Parker, Isaac. Deerfield, Mass. 1780.

Parker, Thomas. Philadelphia, Pa. 1785-99.

Parmier, John Peter. Philadelphia, Pa. 1793.

Parmelee, Ebenezer. Guilford, Conn. 1726-40. At the Henry Whitfield House, now the State Historical Museum, at Guilford, Conn., is what remains of "the first town clock erected in New England. It was built by Ebenezer Parmelee of Guilford, between 1726-30, and was placed in the church tower of the First Society, where it remained until 1893. It is now set up in the attic of the Whitfield House and is in running order. There was but one hand. The maker of this clock kept it in order for many years, for which, in 1746, the town excused him from town offices. At 9 o'clock at night curfew rang. The church in whose tower the clock was first placed was torn down in 1830, and the clock was transferred to the new building."

Parry, John J. Philadelphia, Pa. 1795-99.

Patton, Abraham. Philadelphia, Pa. 1799.

Patton, David. Philadelphia, Pa. 1799.

Patton & Jones. Baltimore, Md. 1798.

Payne, Lawrence. New York City. 1732-55.

Pearsall & Embree. New York City. 1790.

Pearson, William, Jr. New York City. 1775.

Pease, Isaac T. Enfield, Conn. 1818.

Peck, Benjamin. 35 High St., Providence, R. I. 1824.

Peck, Elijah. Boston, Mass. 1789.

Peck, Julius, & Co. Litchfield, Conn. 1820.

Peck, Moses. Boston, Mass. 1789.

Peck, Timothy. Litchfield, Conn. 1790.

Peckham & Knower. 9 City Hall, Albany, N. Y. 1814. "Have for sale 7 Willard's Patent Timepieces and 8 day clocks warranted of the best workmanship."

Perkins, Thomas. Philadelphia, Pa. 1785-99.

Perry, Marvin. New York City. 1769-80. He advertises in 1776 as follows: "Repeating and Plain Clock and Watchmaker from London, where he has improved himself under the most eminent and capital artists in these branches, has opened shop in Hanover Square at the Sign of the Dial. He mends and repairs, musical, repeating, quarterly, chiming, silent, pull, and common weight clocks."

Perry, Thomas. New York City. 1749-75. Dock St. "Thomas Perry, Watchmaker from London, makes and cleans all sorts of clocks and watches."

Peters, James. Philadelphia, Pa. 1832.

Phillips, Joseph. New York City. 1713-35.

Pierret, Matthew. Philadelphia, Pa. 1795. A Frenchman settled there.

Pierson, Henry S. Portland, Me. 1834.

Pitkin, Henry. Hartford, Conn. 1838-41.

Pitman, Saunders. Providence, R. I. 1780.

Pitman, William R. New Bedford, Mass. 1836. "Manufacturers of gold and silverware, clocks and watches repaired and warranted."

Pitman & Dorrance. Providence, R. I. 1800.

Platt, ——. New Milford, Conn. 1793.

Platt, G. W. & N. C. New York City. 1832.

Pomeroy, Noah. Bristol, Conn. 1860.

Pomeroy & Parker. Bristol, Conn. 1855.

Pond, Philip. Bristol, Conn. 1840.

Pope, Joseph. Boston, Mass. Mentioned by Brissot de Warville as being a well-known clockmaker in Boston in 1788.

Pope, Robert. Boston, Mass. 1786.

Porter, William. Waterbury, Conn. 1815-20.

Potter, Ephraim. Concord, Mass. 1775-90.

Pratt, William, & Brother. 14 Hanover Sq., Boston. 1847.

Price, Isaac. Philadelphia, Pa. 1799.

Price, Joseph. Baltimore, Md. 1799. 35 S. Calvert St.

Prince, Isaac. Philadelphia, Pa. 1791-95.

Proctor, Cardan. New York City. 1747-75.

Proctor, William. New York City. 1737-60.

Q

Quimby, Phineas. Belfast, Me. 1830-50.

Quimby, William. Belfast, Me. 1821-50.

Quincy, Henry. 14 West Side of Exchange St., Portland, Me. 1834. "Clocks, Watches, Jewelry, shell combs, all kinds of fancy articles repaired."

R

Rapp, William D. Had a shop south side of Race Street, in Philadelphia, 1831; in Norristown 1837.

Raulet, Samuel. Monmouth, Me. 1800.

Rea, Archelaus. Salem, Mass. 1789.

Read, W. H. J. Philadelphia, Pa. 1832.

Reed, Isaac, & Son. Philadelphia, Pa. 1832.

Reed, Stephen. New York City. 1832.

Reeves, D. S. Philadelphia, Pa. 1832.

Reiley, John. Philadelphia, Pa. 1785-95.

Rice, Joseph. Baltimore, Md. 1799.

Rice, Joseph T. Albany, N. Y. 1813-31.

Rice, Phineas. Charlestown, Mass. 1830.

Rich, John. Bristol, Conn. 1820.

Richards, B. & A. Bristol, Conn. 1820.

Richards, Gilbert, & Co. Chester, Conn. 1831. "Manufacturers of Patent Clocks."

Richards & Morrell. New York City. 1832.

Richardson, Francis. Philadelphia, Pa. 1736.

Richmond, G. & A. Providence, R. I. 1810.

Richmond, Franklin. 17 Market St., Providence, R. I. 1824.

Richter, Joseph. Baltimore, Md. 1817.

Riley, John. Philadelphia, Pa. 1799.

Ritchie, George. Philadelphia, Pa. 1785-93.

Rittenhouse, David. Philadelphia, Pa. 1751-77. From 1751 to 1770 his clocks were made at Norriton, but during the last seven years at Philadelphia.

Roath, R. W. Norwich, Conn. 1832.

Roberts, Gideon. Bristol, Conn. 1790-1804.

Roberts, Jacob. Easton, Pa. 1810-30.

Roberts, John. Philadelphia, Pa. 1799.

Rode, William. Philadelphia, Pa. 1785-95.

Rogers, Isaac. Marshfield, Mass. 1800-28.

Rogers, James. New York City. 1822-78.

Rogers, Samuel. Plymouth, Mass. 1790-1804.

Rogers, William. Hartford, Conn. 1837. "Dealer in watches, and timepieces of every description repaired in the best manner."

Rose, Daniel. Reading, Pa. 1820-40.

Roth, N. Utica, N. Y. 1840.

Russell, Major John. Son of John Russell, "set up his trade of watchmaker," 1765, Deerfield, Mass.

Russell, George. Philadelphia, Pa. 1832.

Rutter, Moses. Baltimore, Md. 1804.

S

Sadtler, P. B. Baltimore, Md. 1804.

Samuels & Dunn. New York. Sold clocks with spurious labels. 1844.

Sandell, Edward. Baltimore, Md. 1817.

Sanford, Eaton. Plymouth, Mass. 1760-76.

Sanford, Ransom. Plymouth, Conn. 1840. Made brass pinions and barrels for Seth Thomas clock movements.

Sanford, Samuel. Plymouth, Conn. 1845-77.

Sands, Stephen. New York City. 1772.

Sargeant, Joseph. Hartford, Conn. Born 1761, died 1843.

Sargent, Jacob. Springfield, Mass. 1800.

Savoye, N. Boston, Mass. 1832.

Sawin, John. Boston, Mass. 1831. "Manufacturer of all kinds of clocks for Church, Gallery, Bank, Ins. office, Factory, Watch Clocks and

common House clocks. 33 Cornhill."

Sawin, John. Chelsea, Mass. 1847.

Sawin & Dyer. Boston, Mass. 1800-20.

Saxton & Lukens. Philadelphia, Pa. 1828-40.

Schriner, Martin. Lancaster, Pa. 1790-1830.

Schriner, M. & P. Lancaster, Pa. 1830-40.

Schroeter, Charles. Baltimore, Md. 1817.

Schuyler, P. C. New York City. 1802. "Begs leave to inform his friends and the public in general that he has again commenced business at 48 John street, one door west of William street. From the knowledge he has of the above business he flatters himself he will give general satisfaction."

Searson, John. "Clock and Watchmaker." New York City. 1757.

Sedgwick & Bishop. Waterbury, Conn. 1820.

Seymour, Robert. Waterbury, Conn. 1814.

Shearman, Robert. Wilmington, Del. 1760-70.

Shearman, Robert. Philadelphia, Pa. 1799.

Shepherd & Boyd. Albany, N. Y. 1813.

Sherman, Robert. Philadelphia, Pa. 1799.

Sibley, Gibbs. Canandaigua, N. Y. 1788. He was born in Sutton, Mass., Feb. 18, 1765. He married Hannah Rice, July 1, 1788, and removed to the Genesee Country. He settled in Canandaigua and carried on his trade of clockmaking. His son was one of the first silversmiths in Canandaigua."

Sibley, S. Great Barrington, Mass. 1790.

Sinnett, John. New York City. 1774. He advertised in the *Mercury* for May 2, 1774, clocks of all kinds and "Watches neat and plain, gold, silver, shagreen and metal. Some engraved and enamelled with devices new and elegant; also the first in this country of the small new-fashioned watches the circumference of a British shilling. John Sinnett removed to the Main street called the Fly, next house to the corner of Beekman's slip, the sign of the Dial against the Wall."

Smith, Aaron. Ipswich, Mass. 1825.

Smith, Edmund. New Haven, Conn. 1817. He advertises that he always has cheap and handsome clock cases on sale.

Smith, Henry. Plymouth Hollow, Conn. 1840.

Smith, Henry C. Waterbury, Conn. 1814.

Smith, James. Philadelphia, Pa. 1846. "Wholesale clock establishment No. 82 North Third street where watchmakers and merchants will find the largest assortment ever offered at prices exceedingly low. Year, month, 8 day and 30 hour and alarm."

Smith, Jesse. Concord, Mass. About 1800. Apprentice to Levi Hutchins.

Smith, Jesse, Jr. Salem, Mass. 1837.

Smith & Goodrich. Bristol, Conn. 1827-40. In the year 1836 at Bristol there were sixteen clock factories, making 100,000 brass and wood clocks a year.

"Smith's Clock Establishment corner of the Bowery and Division street." (On a paper found in a carved pillar and scroll-top clock.)

Smith & Sill. Waterbury, Conn. 1831.

Souers, Christopher. Philadelphia, Pa. 1724.

Spaulding, Edward. Providence, R. I. 1789-97.

Spence, John. Boston, Mass. 1823.

Spencer, Wooster & Co. Salem Bridge, Conn. 1828-37.

Sperry & Shaw. New York City. Sold clocks with spurious labels. 1844.

Sprogell, John. Philadelphia, Pa. 1791.

Spurch, Peter. Philadelphia, Pa. 1795-99.

Squire & Bros. New York City. 1847.

Stanton, Job. New York City. 1810.

Stanton, W. P. & H. Rochester, N. Y. 1838.

Starr, Frederick. Rochester, N. Y. 1834. "Cabinet and Clock Factory."

Stebbins & Howe. New York City. 1832.

Stein, Abraham. Philadelphia, Pa. 1799.

Stein, Daniel H. Norristown, Pa. 1837.

Stever & Bryant. Whigville, Conn. 1830.

Stewart, Arthur. New York City. 1832.

Stickney, Moses P. Boston, Mass. 1823.

Stillas, John. Philadelphia, Pa. 1785-93.

Stillman, William. Burlington, Conn. 1789-95.

Stillson, David. Rochester, N. Y. 1834.

Stokel, John. New York City. 1820-43.

Stow, D. F. New York City. 1832.

Stow, Solomon. Southington, Conn. 1832. "Manufactures Eli Terry's Patent Clocks."

Stowell, Abel. Worcester, Mass. 1790-1800. He made both house and tower clocks.

Stowell, Abel. Boston, Mass. 1823-56.

Stowell, John. Boston, Mass. 1825-36.

Stowell, John. Medford, Mass. 1815-25.

Stowell, John J. Charlestown, Mass. 1831.

Stratton, Charles. Worcester, Mass. 1820.

Strech, Peter. Philadelphia, Pa. 1750-80.

Studley, David. Hanover, Mass. 1806-35.

Sutton, Robert. New Haven, Conn. 1825. Clock and watch maker. "Continues to carry on his business at the old stand of the late Mr. Simeon Jocelyn on State Street, where clocks, Patent Lever, Horizontal, Repeating and Plain watches are repaired."

Swan, Benjamin. Haverhill, Mass. 1810-40.

Syberberg, Christian. New York City. 1755-75.

Syderman, Philip. Philadelphia, Pa. 1785-94.

T

Taber, Elnathan. Roxbury, Mass. 1784-1854. The best apprentice of Simon Willard. On the retirement of the latter, Taber bought his tools and goodwill of business.

Taber, S. M. Providence, R. I. 1824.

Tarbox, H. & D. New York City. 1832.

Taylor, Samuel. Philadelphia, Pa. 1799.

Tenny, William. Nine Corners, Dutchess Co., N. Y. 1790.

Terry Clock Co. Pittsfield, Mass. 1870.

Terry, Eli. Plymouth, Conn. (Now Terryville.) 1793-1818. "Patent Clocks invented by Eli Terry, Plymouth, Con. Warranted if well used. N. B. The public may be assured that this kind of clock will run as long without repairs and be as durable and accurate for keeping time as any kind of clock whatever." This was the paper used in 30 hour wood clocks, pillar and scroll top.

Terry, Eli, Jr. Plymouth Hollow, Conn. (Now Thomaston.) 1824-41.

Terry, Eli, 3. Made clock springs in Plymouth. 1862.

Terry, Henry. Plymouth, Conn. 1814-30.

Terry, L. B. Albany, N. Y. 1831.

Terry, Samuel. Bristol, Conn. 1820-35. (Brother of Eli.) "Manufacturer of Patent 30 Hour Wood Clocks with va-

rious Patterns of Fancy cases, and 8 Day Church Steeple Clocks; also Brass Founder."

Terry, Silas B. Thomaston, Conn. 1823-76. (Son of Eli.) Made brass clocks.

Terry, T. Boston, Mass. 1810-23.

Terry, Thomas. Boston, Mass. 1823.

Terry, Theodore. Ansonia, Conn. 1860.

Terry, Thomas, & Hoadley. Greystone, Conn. 1809.

Terry & Andrews. Bristol, Conn. 1835-40.

Terry & Barnum. East Bridgeport, Conn. 1856.

Thibault & Brother. Philadelphia, Pa. 1832.

Thomas, Joseph. Philadelphia, Pa. 1830.

Thomas, Seth. Plymouth Hollow, Conn. (Now Thomaston.) 1809-50.

Thomas, Seth, Co. Thomaston, Conn. 1853.

Thomas & Hoadley. Greystone, Conn. 1810.

Thompson, William. Baltimore, Md. "4 Market Space." 1799.

Tinges, Charles. Baltimore, Md. 1799.

Tobias, S. & I. & Co. 62 Pine St., New York. 1829.

Todd, Richard D. New York City. 1832.

Tolles, Nathan. Plymouth, Conn. Made parts of clocks. Sold out prior to 1836.

Tompkins, George S. 63 Cheapside, Providence, R. I. 1824. Made clocks, watches, and silverware.

Tower, Reuben. Plymouth, Mass. 1813-20. Also at Hingham, Mass.

Townsend, Charles. Philadelphia, Pa. 1799.

Townsend, David. Philadelphia, Pa. 1789.

Townsend, Isaac. Boston, Mass. 1790.

Tuller, William. 49 Chatham St., New York. 1831.

Turell, Samuel. Boston, Mass. 1789.

Twiss, B. & H. Meriden, Conn. 1820-32.

U

Union Manufacturing Co. Bristol, Conn. "Brass clocks made and sold by Union Manufacturing Co." On a mahogany cased clock, 26 in. high and 15 in. wide.

Upjohn, James. Came to America in 1802; was a member of the London Clockmakers' Company, and is mentioned in their lists.

Upson, Merrimans & Co. Bristol, Conn. 1830.

Urick, Valentine. Reading, Pa. 1760.

V

Van Vleit, B. C. Poughkeepsie, N. Y. 1832. Watch and clock maker and silversmith.

Van Wagenen, John. Oxford, N. Y. 1843. "Fine Pieces, Brass and Wood Clocks of the best kind warranted to keep correct time, for sale lower than ever offered before, at the cheap store."

Veazie, Joseph. Providence, R. I. 1805.

Vinton, David. Providence, R. I. 1792.

Vogt, John. New York City. 1758.

Voight, Henry. Philadelphia, Pa. 1775-93.

Voight, Sebastian. Philadelphia, Pa. 1775-99.

Voight, Thomas. Philadelphia, Pa. 1811-35. (Son of Henry.)

Vuille, Alexander. Baltimore, Md. 1766.

W

Wadsworth, J. C. & A. Litchfield, Conn. 1832.

Wadsworth, Lounsbury & Turner. Litchfield, Conn. 1830. Made Terry's Patent clocks.

Wadsworths & Turners. Litchfield, Conn. 1800.

Wady, James. Newport, R. I. 1750-55.

Walker, A. Brockport, N. Y. 1832. Made both watches and clocks.

Wall & Almy. New Bedford, Mass. 1820-23.

Walsh, ——. Forestville, Conn. About 1825.

Ward, Anthony. New York City. 1724-50.

Ward, John & William L. Philadelphia, Pa. 1832.

Ward, Joseph. New York City. 1735-60.

Ward, Lauren. Salem Bridge, Conn. 1832-40.

Ward, Lewis. Salem Bridge, Conn. 1829-40.

Ward, Macock. New Haven, Conn. 1800.

Ward, Richard. Salem Bridge, Conn. 1832-40.

Ward, Thomas. Baltimore, Md. 1817.

Ward, William. Salem Bridge, Conn. 1832-40.

Warner, Cuthbert. Baltimore, Md. 1799. "Jones St. Old Town."

Warner, George J. 10 Liberty St., New York. 1795. Has for sale "two musical chamber clocks with moving figures."

Warner, John. New York City. 1790.

Waterbury Clock Co. 1855.

Watson, J. Chelsea, Mass. 1847.

Weaver, N. Utica, N. Y. 1844.

Welch, E. N. Bristol, Conn. 1809-87.

Welch, Elisha, Co. Bristol, Conn. 1855.

Weldon, Oliver. Bristol, Conn. 1820.

Welton, Hiram & Heman. Plymouth, Conn. 1841-44.

West, J. L. Philadelphia, Pa. 1832.

Wetherell, Nathan. Philadelphia, Pa. 1830-40.

Wheaton, Caleb. Providence, R. I. 1784-1827.

Wheaton, Caleb, & Son. Providence, R. I. 81 and 165 N. Main St. 1824.

Wheaton, Calvin. Providence, R. I. 1791.

Wheaton, Godfrey. Providence, R. I. 1824.

Whipple, Arnold. Providence, R. I. 1810.

Whitaker, George. Providence, R. I. 1805.

Whitaker, Josiah, & Co. Providence, R. I. 1824. "Patent lever, repeating and Plain watches."

White, Sebastian. Philadelphia, Pa. 1795.

Whitehead, John. Philadelphia, Pa. 1831.

Whiting, Riley. Winchester and Winsted, Conn. 1808-35. "Manufactures all kinds of Shelf Clocks, and also the long pendulum clocks. From 50 to 60 labourers employed."

Whiting, Samuel. Concord, Mass. 1808-17.

Whitman, Ezra. Bridgewater, Mass. 1790-1840.

Whittaker, William. New York City. 1731-55.

Wiggins, Thomas, & Co. Philadelphia, Pa. 1832.

Wilbur, Job. Newport, R. I. 1815-40.

Wilcox, A. New Haven, Conn. 1827.

Wilcox, Cyprian. New Haven, Conn. 1827. Clock, watchmaker and silversmith.

Wilder, Ezra. Hingham, Mass. 1800-70.

Wilder, Joshua. Hingham, Mass. 1780-1800.

Willard, Aaron. Grafton, Mass. Born 1757, died 1844. He retired from business in 1823.

Willard, Aaron, Jr. Roxbury, Mass. 1823-63. He was the originator of the lyre clock.

Willard, Alexander T. Ashby, Mass. 1800-40. Brother of Philander.

Willard, Benjamin. Roxbury, Mass. Born in Grafton, Mass., 1743; died in Baltimore 1803. The following advertisement is taken from the *Boston Gazette,* February, 1773: "Benjamin Willard at his shop in Roxbury street, pursues different branches of clock and watchwork, has for sale musical clocks playing different tunes, a new tune every day of the week

and on Sunday a psalm tune. These tunes perform every hour without any obstruction to the motion or going of the clock and new invention for pricking barrels to perform the music and his clocks are made much cheaper than any ever yet known. All the branches of this business likewise carried on at his shop in Boston."

Willard, Benjamin F. Born in Roxbury, Mass., 1803, died 1847. He was son of Simon Willard, brother of Simon, Jr., and learned his trade in his father's shop.

Willard, Ephraim. Medford, Mass. 1777. Roxbury 1798. New York 1805.

Willard, Philander J. Ashburnham, Mass. He made clocks here till 1825, then moved to Ashby, went into partnership with his brother and they made clocks till 1840.

Willard, Simon. Boston, Mass. Born in Grafton, Mass., 1753, died in Boston, Mass., 1848, aged 95 years. The greatest clock maker of this distinguished family.

Willard, Simon, Jr. Boston. Born 1795, died 1874. He began to make clocks in 1824. He advertised in the *Columbian Centinel*, in 1828: "New Watch-making Establishment. Simon Willard, Jr., has taken the office lately occupied by Zebedee Cook, Jr., Esq., Rogers Buildings, No. 9 Congress Street, and will be happy to attend to the watch-making business in all its branches. Having been absent some time for the express purpose of availing himself of the information of those most skillful in the profession, he feels a confidence that he shall be able to give satisfaction to all who may honor him with their patronage. Chronometers, Duplex Virgule, Lepine, Horizontal, Repeating and Patent-Lever Watches repaired. Also chimney and musical clocks. Clocks of all descriptions can be obtained at his Father's (Mr. Simon Willard) Factory at short notice."

Willard, Zabdiel A. Boston, Mass. 1841-70. Made watches,

Willard & Nolen. Boston. clocks and chronometers. 1806. Clock painters.

Williams, David. Newport, R. I. 1825.

Williams, Orton, Prestons & Co. Farmington, Conn. 1820. "Improved Clocks with Brass Bushings, manufactured by Williams, Orton, Prestons and Co., Farmington, Conn. Sold wholesale and Retail.

Warranted if well used. Directions for setting the Alarm if there is one attached to the Clock. To set the Alarm at any particular hour, turn the Small Dial (in the Centre of the Face) forward till the figure upon it denoting the hour, is directly under the hour hand. Then wind up the Alarm weight. A very little Oil may be put on the pivots on the plates, the pallets or ends of the parts commonly called the verge, the pin on which the verge plays, and the wire which carries the pendulum at the place where it touches the rod.

"Directions for Regulating the clock. The pendulum ball must be raised to make the clock go faster and lowered to produce a contrary effect."

This paper is in a fine solid mahogany mantel clock, and there were two other papers giving directions for setting up the clock. Owned by J. C. Kalbfleisch, Rochester, N. Y.

Wilson, Hosea. Baltimore, Md. 1817.

Wingate, Fred. Augusta, Me. 1800.

Wingate, Paine. Newburyport, Mass. 1803. In Boston directory for 1789.

Winship, David. Litchfield, Conn. 1832. "Maker and Dealer."

Wood, David. Newburyport, Mass. Born 1766, died 1824.

Wood, John. Philadelphia, Pa. 1770-93.

Wood, Josiah. New Bedford, Mass. 1800-10.

Wriggins, Thos., & Co. Philadelphia, Pa. 1831. "103 Chestnut St. 2 doors below the Post Office."

Wright, John. New York City. 1712-35.

Y

Youngs, Ebenezer. Hebron, Conn. 1778.

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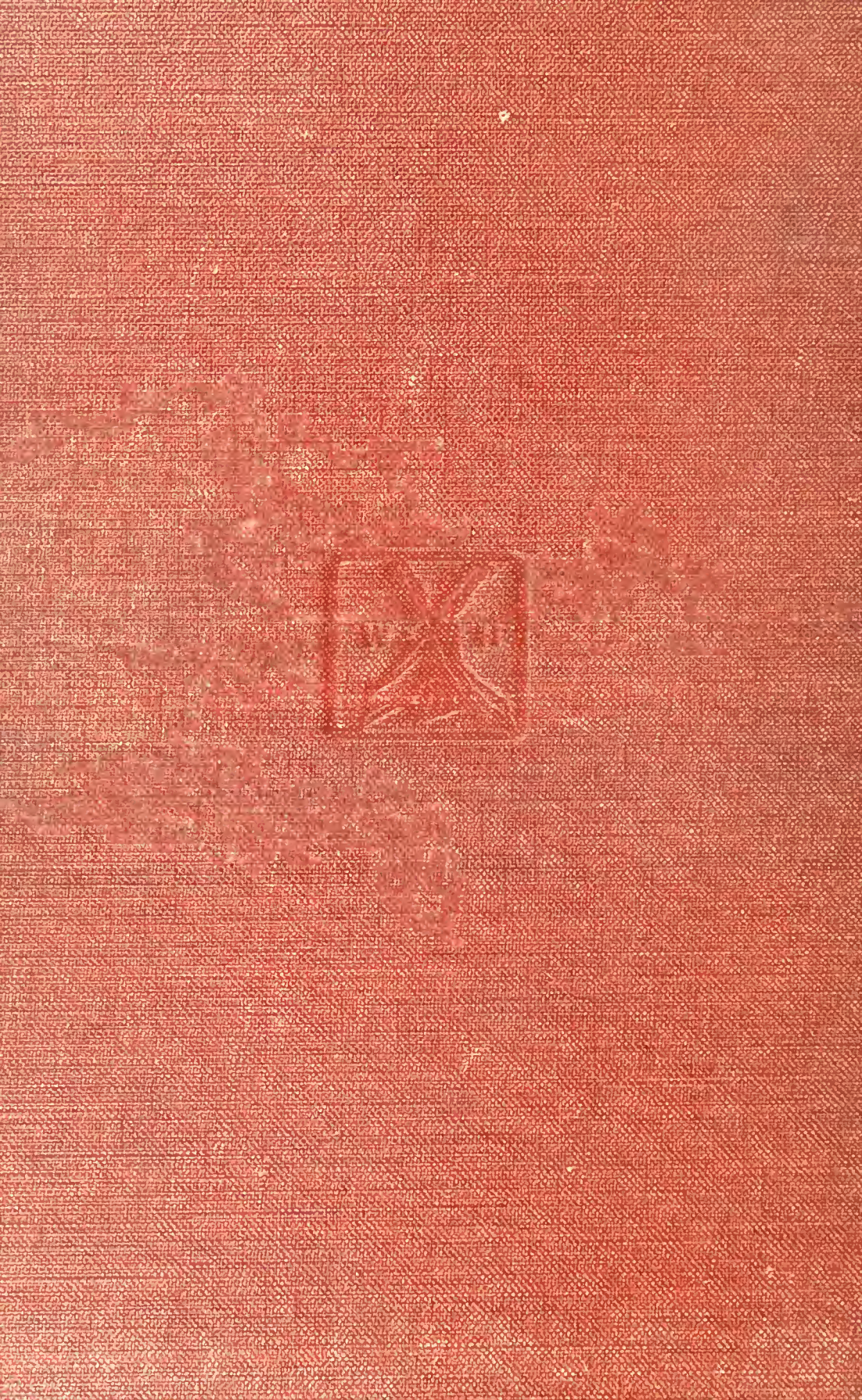

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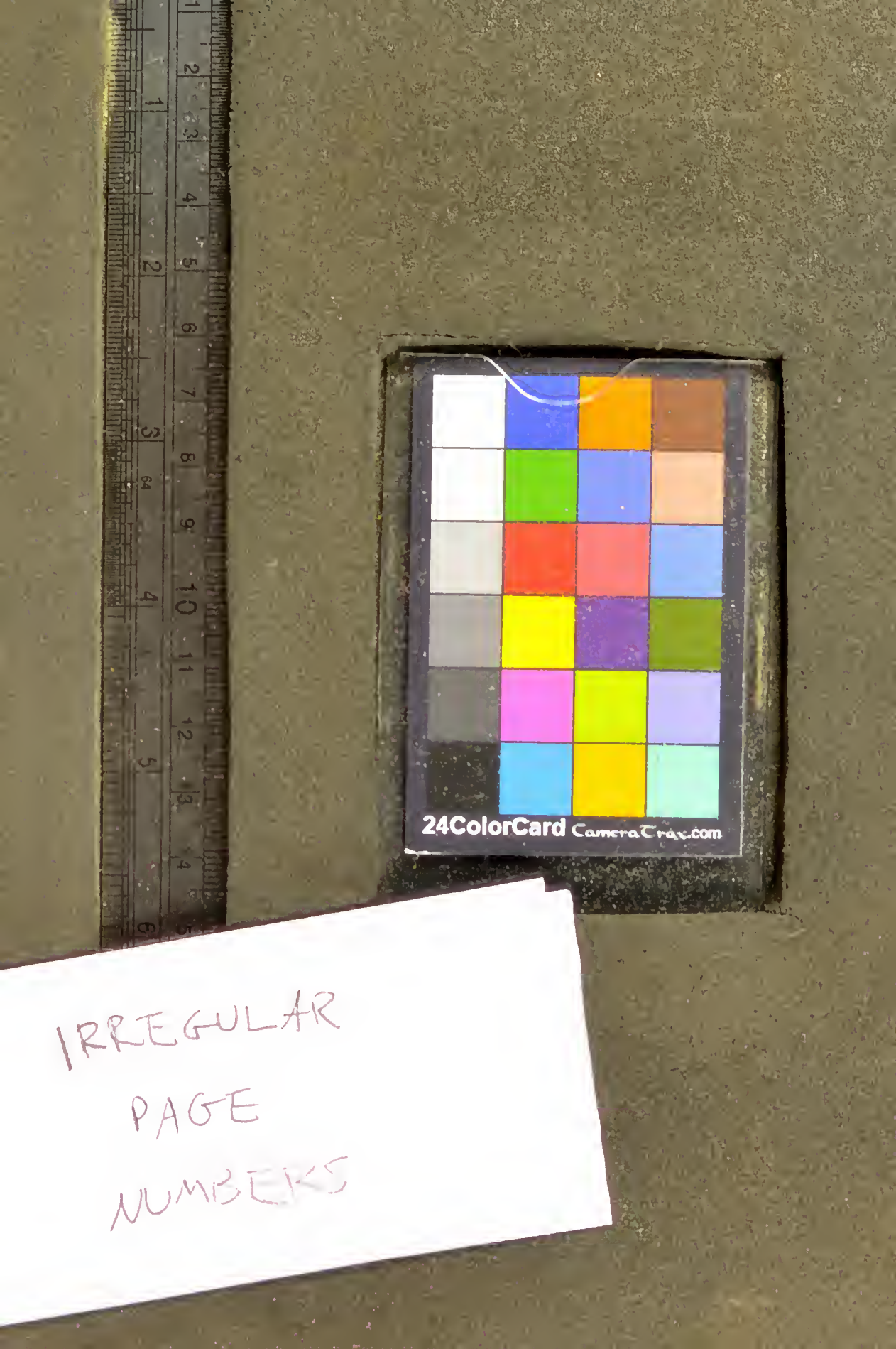
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